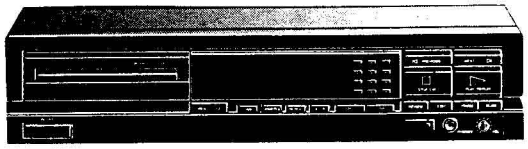
Compact disc player CD608/00B

CD618/00B/05B/10B

Service
Service
Service



ServiceManual

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4822 725 23356

PHILIPS

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CS 43 703

TECHNICAL SPECIFICATIONS

General

1.	Mains voltage /00B	: 220V (±10%)
	/05B	: 240V (±10%)
	/17B	: 117V (±10%)
2.	Mains frequency	: 50-60 Hz
3.	Mains voltage selection	: See circuit diagram Power Supply
4.	Power consumption mains,operated	: 15W

External RC-5 connection

Specification:	V-in Low	: from -2,0V to +1,6V
	V-in High	: from +3V to +7,5V
	R-in	: from 47kOhm to 68kOhm

Line output

1.	Number of channels	: 2
2.	Output voltage	: 2 Vrms ± 2dB
3.	Unbalance left-right	: max. ± 0,25dB
4.	Output resistance	: 200 Ohm
5.	Amplitude linearity	: max. ± 0,15dB from 20 Hz to 20 kHz
6.	Phase non-linearity	: max. ± 1° from 20 Hz to 20 kHz
7.	Signal to noise ratio	: min. 90dB from 20 Hz to 20 kHz
	With A-filter	: min. 95dB from 20 Hz to 20 kHz
8.	Dynamic range (-60dB)	: min. 88dB from 20 Hz to 20 kHz
9.	Total harmonic distortion + noise	: min. 84dB from 20 Hz to 20 kHz
10.	Intermodulation distortion	: min. 84dB from 20 Hz to 20 kHz
11.	Out-band attenuation	: min. 60dB
12.	Channel separation	: min. 86dB from 20 Hz to 20 kHz
13.	Muting during random access	: min. 90dB from 20 Hz to 20 kHz
14.	Automatic switched de-emphasis with time constant	: 15/50 µs
15.	Linearity on -90dB	: from +1 to -4dB

Variable headphone (low end)

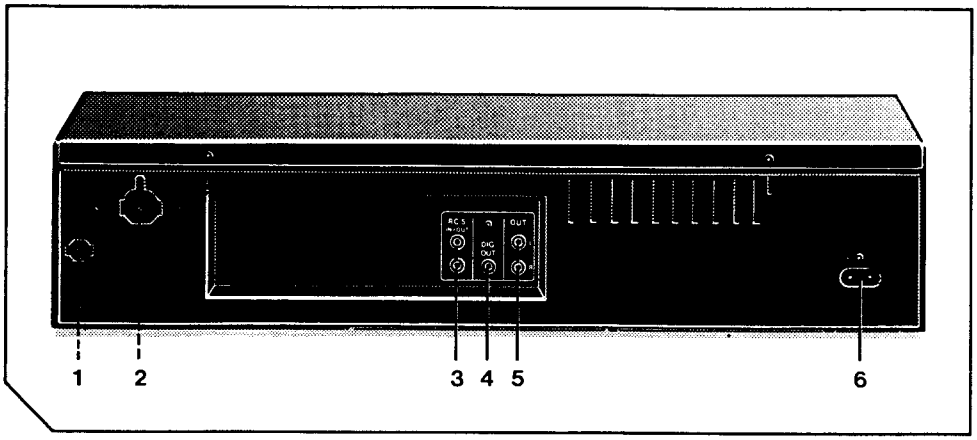
1.	Output voltage	: max. 2 Vrms ± 2dB
2.	Unbalance left-right	: max. ± 0,2dB
3.	Output resistance	: 150 Ohm
4.	Load impedance range	: 32 Ohm to 600 Ohm load
5.	Output power	: max. 6 mW into 32 Ohm load
		: max. 10 mW into 150 Ohm load
		: max. 6 mW into 600 Ohm load

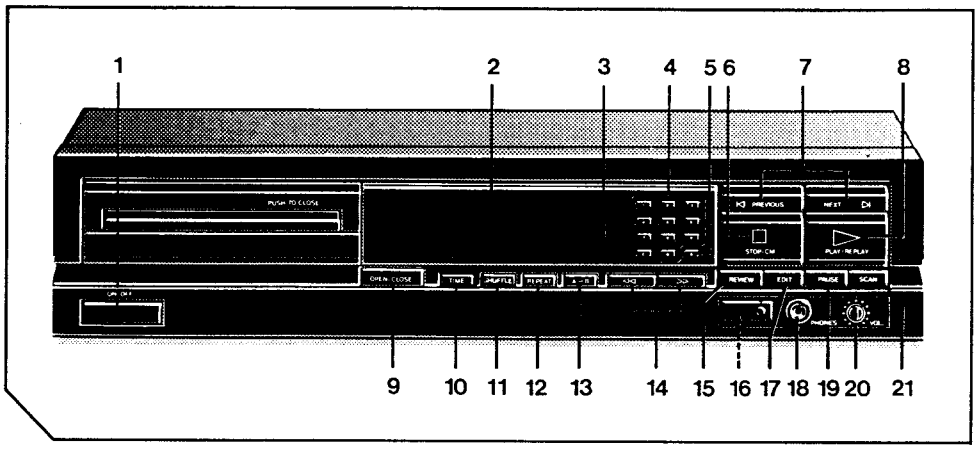
Dimensions and weight

1.	Apparatus tray closed	: WxDxH 420 x 280 x 88/110 mm
2.	Apparatus tray open	: WxDxH 420 x 415 x 88/110 mm
3.	Weight	: 3,8 kg

Optical read-out system

1.	Laser type	: Semiconductor AlGaAs
2.	Wavelength	: 780 nm ± 20 nm
3.	Light output (c.w.)	: 0,4 mW ± 0,04 mW





CONTROLS

	Indication on App.	Indication in diagram
1.	ON/OFF	SK-1
2.	Display	1061
3.	C(ancel)	1024
4.	1-0 digitkeys	1023,1027,1028,1031,1032, 1035,1036,1040,1042,1051
5.	S(tore)	1020
6.	STOP/CM	1026
7.	PREVIOUS NEXT	1034 1030
8.	PLAY/REPLAY	1029
9.	OPEN/CLOSE	1045
10.	TIME	1044
11.	SHUFFLE	1046
12.	REPEAT	1047
13.	A-B	1049
14.	<< >>	1048 1050
15.	REVIEW	1025
16.	Remote eye	1060
17.	EDIT	1022
18.	PHONES	BU-3
19.	PAUSE	1021
20.	VOL(ume)	1201
21.	SCAN	1033

CONNECTIONS

	Indication on App.	Indication in diagram
1.	Mains fuse holder (not all versions)	
2.	Voltage selector (not all versions)	
3.	RC5 IN/OUT	BU-2
4.	DIG(ital) OUT	BU-2
5.	OUT L/R	BU-2
6.	Mains inlet	BU-1

(GB) **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD

(NL) **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(SF) Varo!

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(S) Varning!

Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

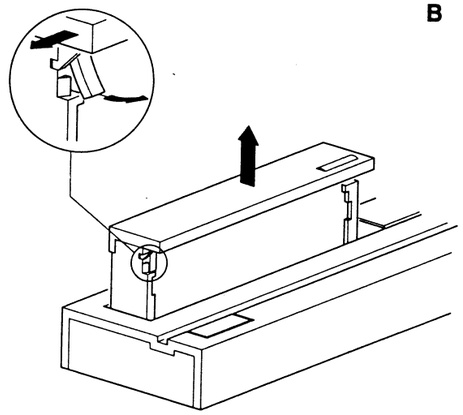
(F)

Les normes de sécurité exigent que l'appareil soit remís à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

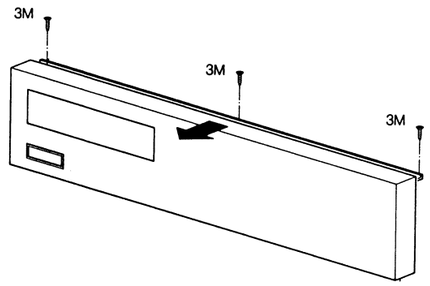
DISASSEMBLY OF THE CABINET AND LOADING

CABINET DISASSEMBLY HINTS

A



B



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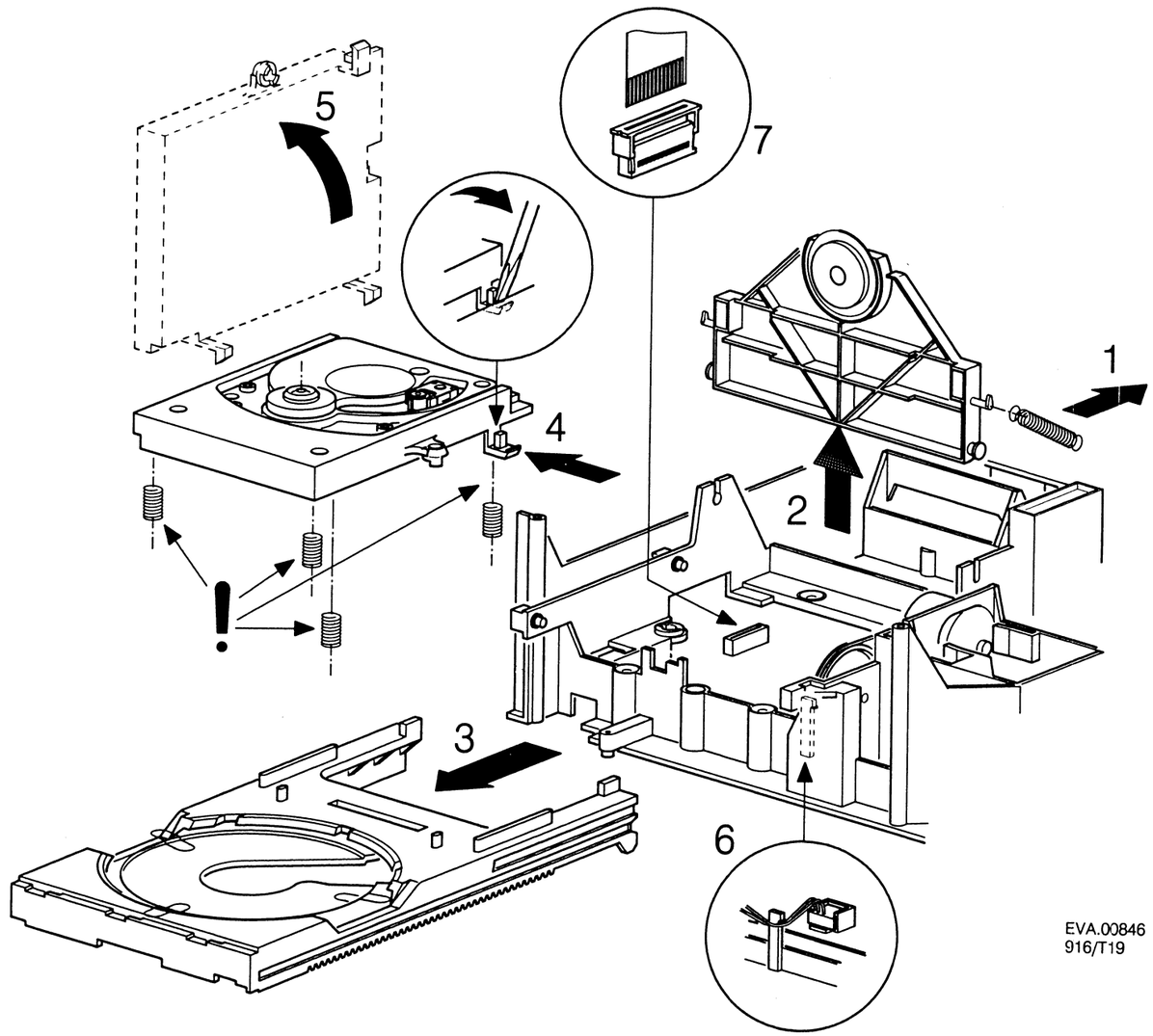
916/T19



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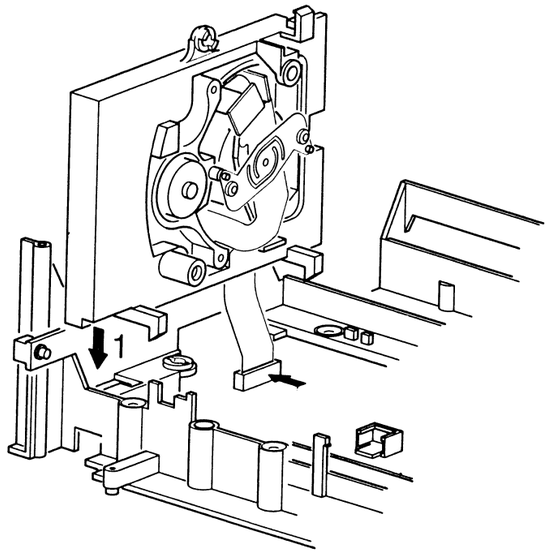
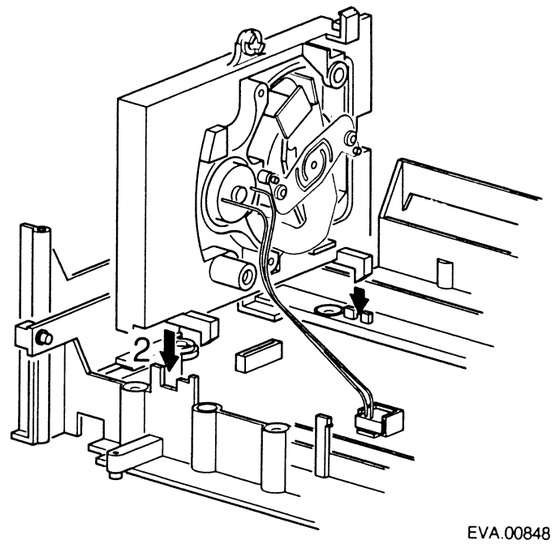
FOIL CONNECTION POSITION



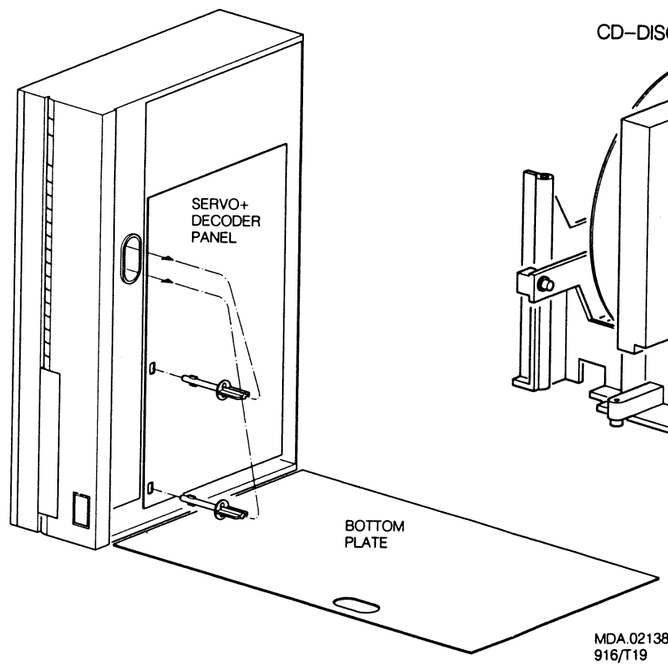
PLAY-SERVICE POSITION



CAUTION
INVISIBLE LASER RADIATION WHEN OPEN DO NOT STARE INTO BEAM
3104 106 75942

EVA.00848
916/T19

MEASURING AND ADJUSTMENT POSITION



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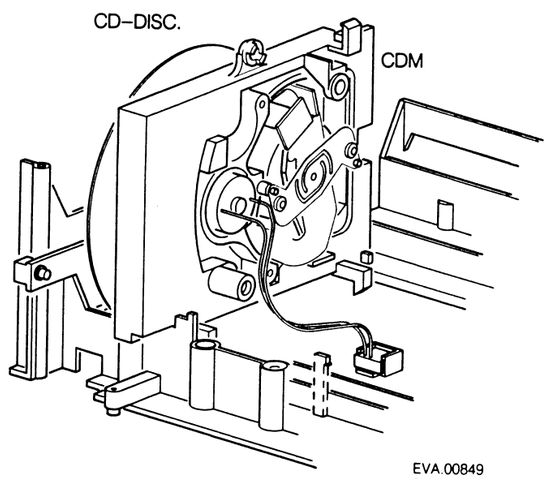
SERVICE POSITION PLAY



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916/T19

SERVICING HINTS

In the set chip components have been applied.
For disassembly and assembly of chip components see the figure below.

The disc should always rest properly on the turntable.
To achieve this a disc hold-down has been mounted in a bracket of the tray mechanism.
If the tray mechanism has to be disassembled for servicing, a separate disc hold-down should be used. (See drawing "Service disc hold-down")
The set can function normally then.
Code number of the disc hold-down is 4822 462 50383.

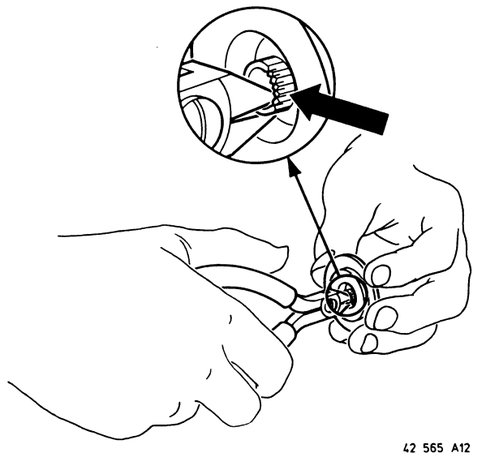
When the tray mechanism has been disassembled, the tray switch must be activated immediatly after pressing the play button in order to ensure normal operation.

To avoid electric shock during servicing, it is recomended to mount an insulation cover over the mains leads on the servo & decoder panel. See drawing MDA 02548. The cover can be ordered under codenumber 4822 444 60655.

SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (test disc 5) + disc with DO errors, black spots and fingerprints (test disc 5A)	4822 397 30096
Disc 65 min 1 kHz without pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
Service cable (4p)	4822 321 21284
Service flexfoil (14p)	4822 322 40066
Service connector (14p)	4822 267 50676
Green LED CQY G11	5322 130 32182
Insulation cover	4822 444 60655
Transport key	4822 535 92907

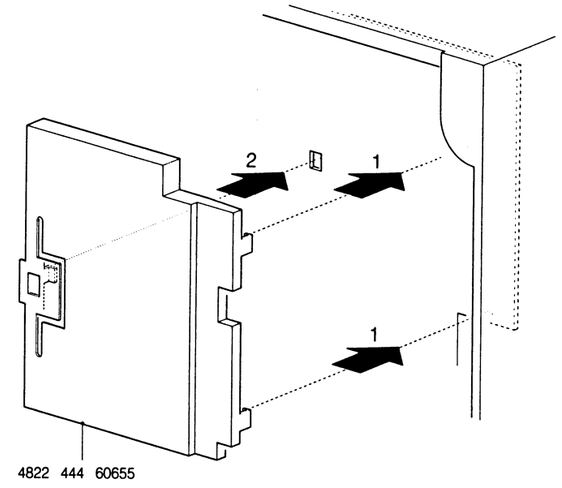
SERVICE DISC-HOLDDOWN



Compose a service Disc hold-down in the following way

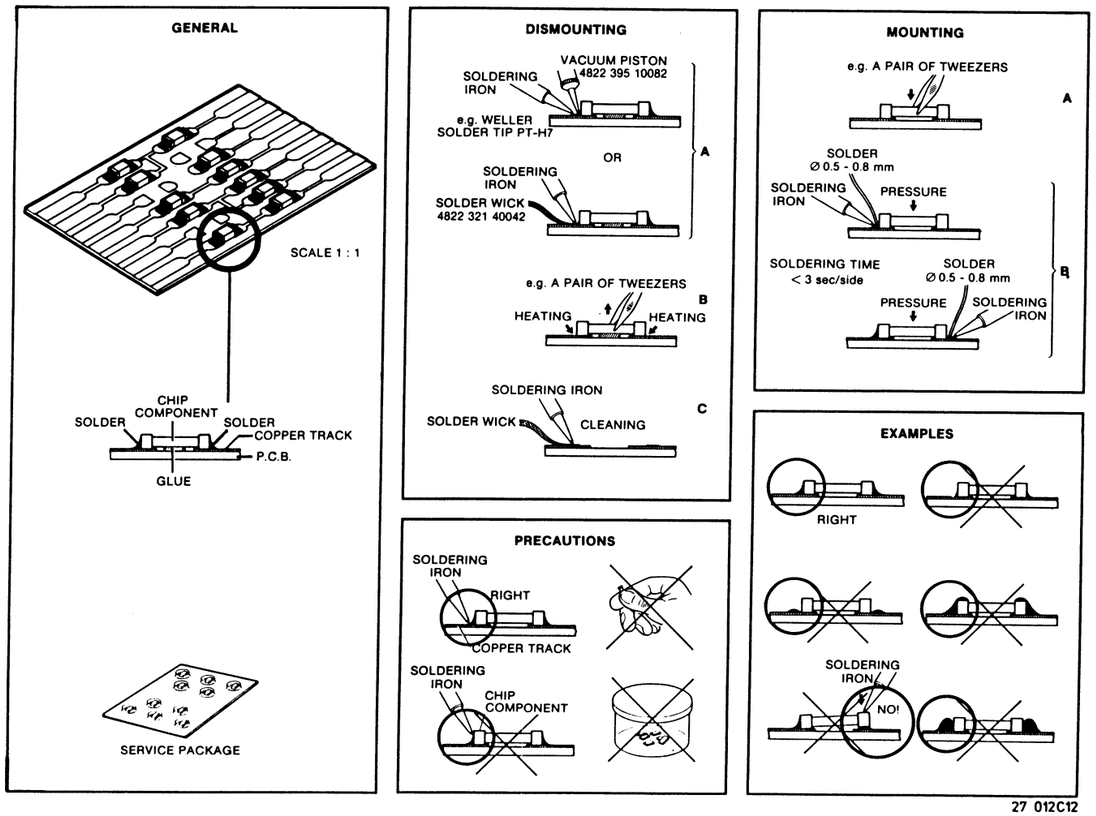
- Cut in the most inner ring of a disc hold-down (4822 462 50383) with small and sharp nippers, see fig. above.
- Enlarge the diameter of the innermost ring slightly with the hind part of a pencil or ballpoint, so that it jams onto the turntable with sufficient force.
- If the jamming force decreases after certain time of use, the diameter has to be enlarged with a pencil or ballpoint again.

INSULATION COVER

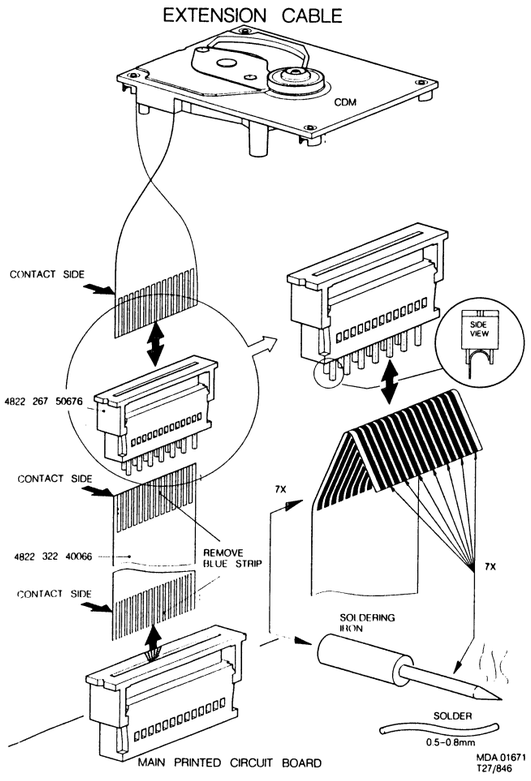


TO AVOID ELECTRIC SHOCK DURING SERVICING MOUNT INSULATION COVER OVER MAINS LEADS ON MAIN PANEL

MDA.02548
T02/007



SERVICE FOIL FOR CDM



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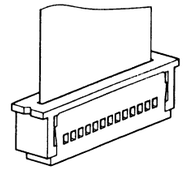
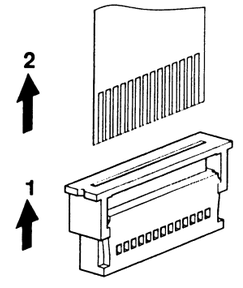
T27/846





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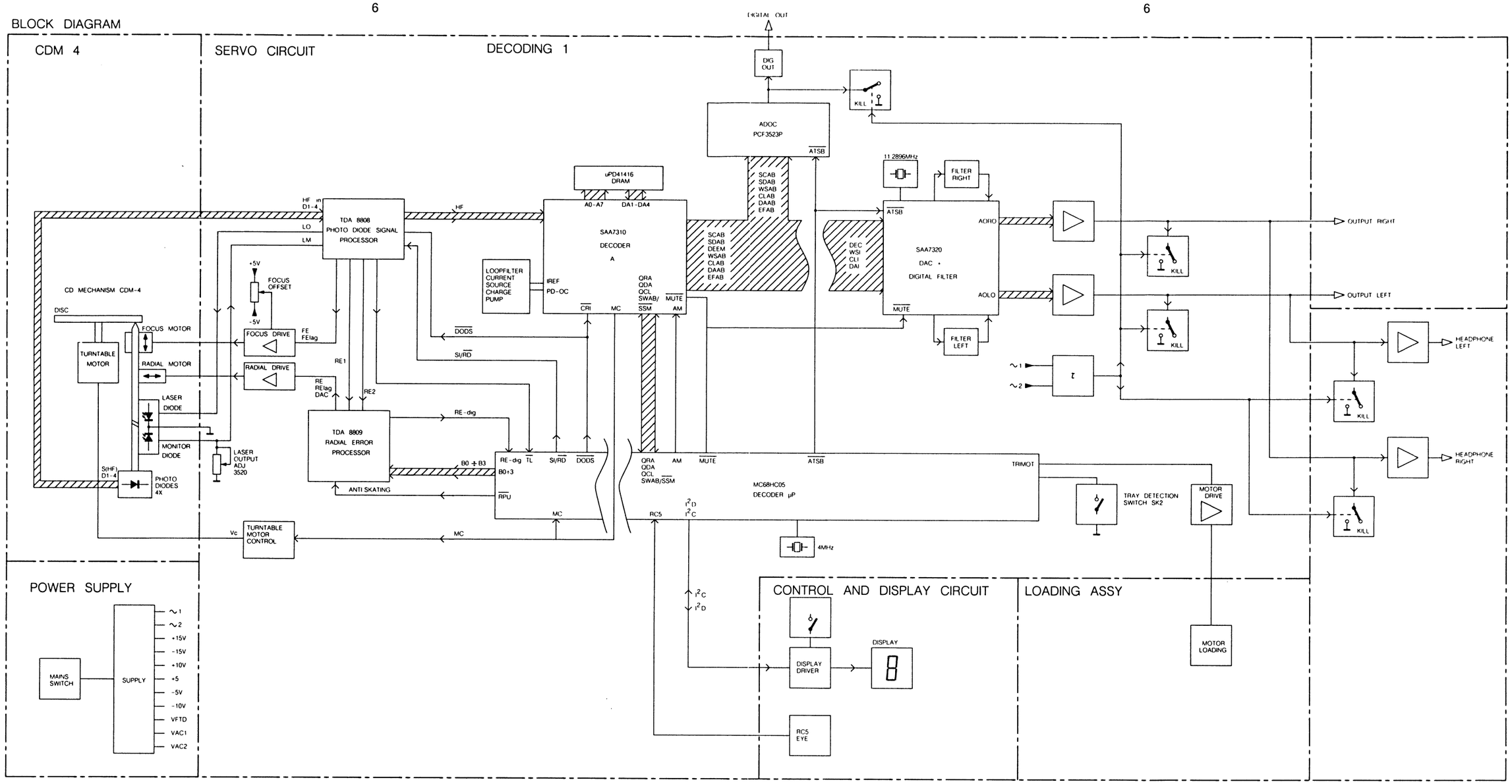
T28/822

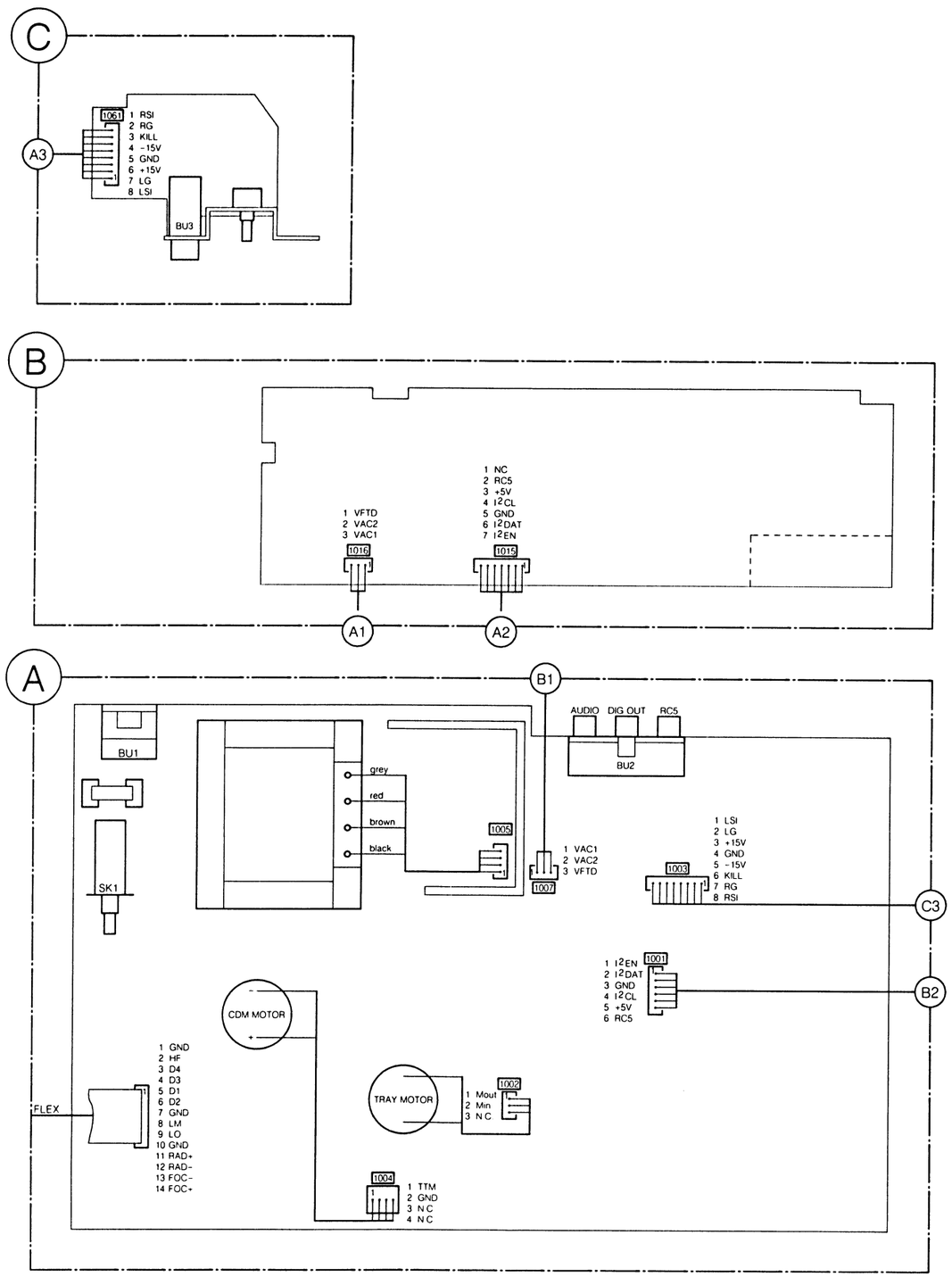
6

BLOCK DIAGRAM



AGC	-	Automatic Gain Control
ATSB	-	Attenuation of Audio level in Search position
ANI	-	Digital Data information on disc signal
B0-B3	-	Control bits for radial circuit
BEQ	-	Equalizer reference current input
BGC	-	DC and LF gain control reference input
CDL	-	Capacitor Damping Left
CDR	-	Capacitor Damping Right
CEFM	-	Clock Eight-to-Fourteen Modulator
CLAB	-	Clock signal Detector-A to DAC
CLI	-	IS serial bit clock input
Cosc1	-	Capacitor wobble oscillator
Cosc2	-	Capacitor wobble oscillator
CRI	-	Counter Reset Inhibit
DAAB	-	Data signal Decoder-A to DAC
DAI	-	IS serial data input
DEC	-	Decoupling input internal bypass
DEEM	-	Deemphasis
DEL	-	Deemphasis Left
DER	-	Deemphasis Right
DET	-	HF detector voltage input
DIV4	-	Divide by 4 input
DOBM	-	Digital out signal
DODS	-	Drop out detector suppression
D1+4	-	Photodiode currents
EFAB	-	Error flag Decoder-A to ADOC
FE	-	Focus error signal
FE lag	-	Focus error signal for LAG network
HF	-	HF output for DEMOD
HFD	-	HF detector output for DEMOD
HF-in	-	HF current input to HF amplifier
HF-out	-	HF amplifier and equalizer voltage output
INTL+ -	-	Output from left positive (negative) switched-capacitor integrator
INTR+ -	-	Output from right positive (negative) switched-capacitor integrator
IREF	-	Reference Current
LM	-	Laser monitor diode input
LO	-	Laser amplifier current output
MC	-	Motor control signal
MUTE	-	Mute signal
OALO	-	Operational Amplifier left output
OARO	-	Operational Amplifier right output
OALI-	-	Operational Amplifier left input -
OALI+	-	Operational Amplifier left input +
OARI-	-	Operational Amplifier right input -
OARI+	-	Operational Amplifier right input +
Offset IN	-	Offset control input
Offset OUT	-	Offset control output
PD/OC	-	Phase detector - oscillator control
PLLH	-	PLL on hold reset
QCL	-	Q-channel clock signal
QDA	-	Q-channel data signal
QRA	-	Q-channel request aknowledge
RADout	-	Output of RE2-RE1 input
RE	-	Radial errer signal (Amplfied RE2-RE1 currents)
RE1	-	Radial error signal 1
RE2	-	Radial error signal 2
RE dig	-	Radial error digital
RE lag	-	Radial error signal for LAG network
Rosc	-	Resistor wobble oscillator
Rwob	-	Wobble generator input
Sc	-	Starting up capacitor input
SCAB	-	Subcode clock Decoder-A to ADOC
SDAB	-	Subcode data Decoder-A to ADOC
Si/RD	-	On/off control for laser supply and focus circuit. Ready signal. Starting up procedure succesfull
SWAB/SSM	-	Subcode word/start-stop motor signal
TL	-	Track loss output signal
TTM+	-	Control voltage for turntable motor
TTM-	-	Control voltage for turntable motor
Vext+	-	Supply connection
Vext-	-	Supply connection
WSAB	-	Word select Decoder-A to ADOC
WSI	-	IS word select input
XIN	-	Oscillator signal in Decoder-A
XSYS	-	Oscillator signal

WIRING DIAGRAM



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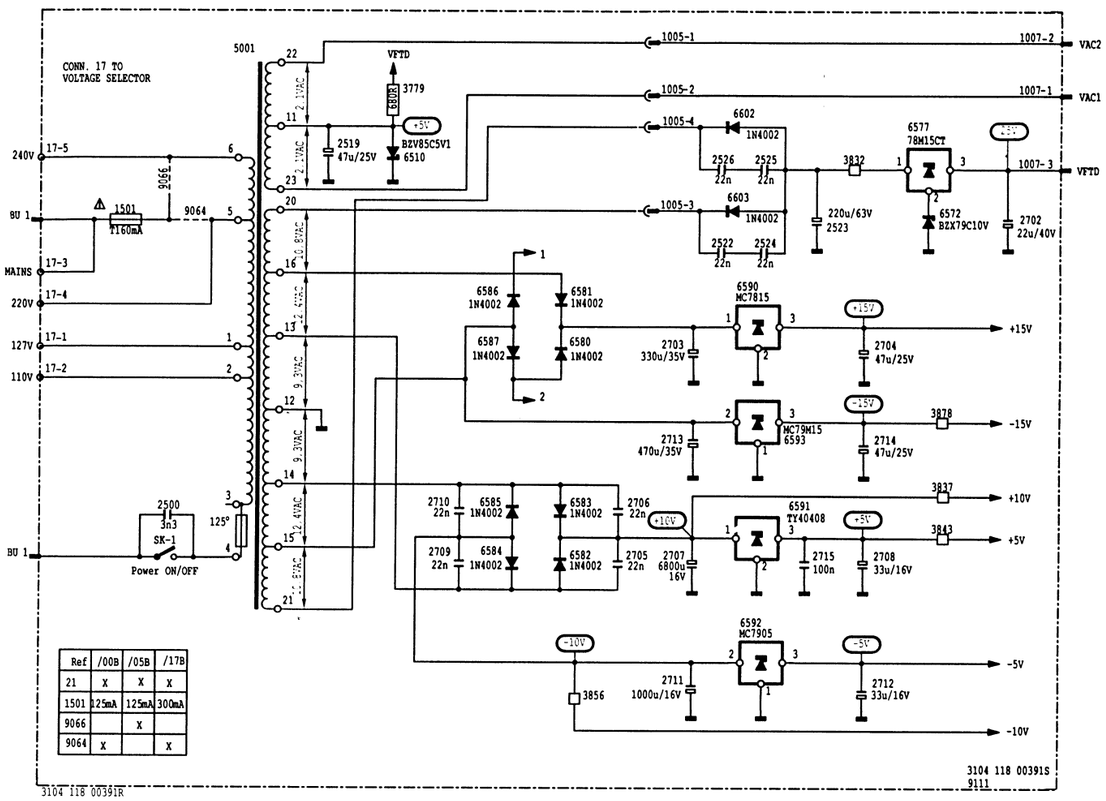
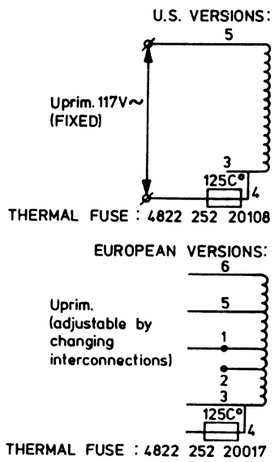
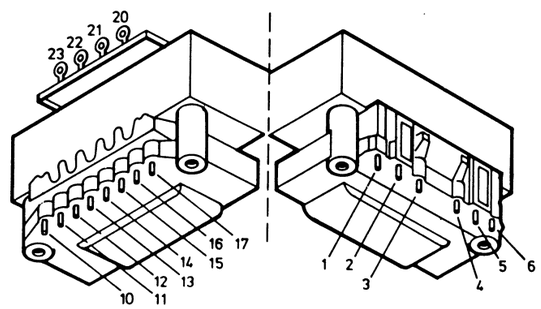
119/113

POWER SUPPLY



TRANSFORMER CONNECTIONS





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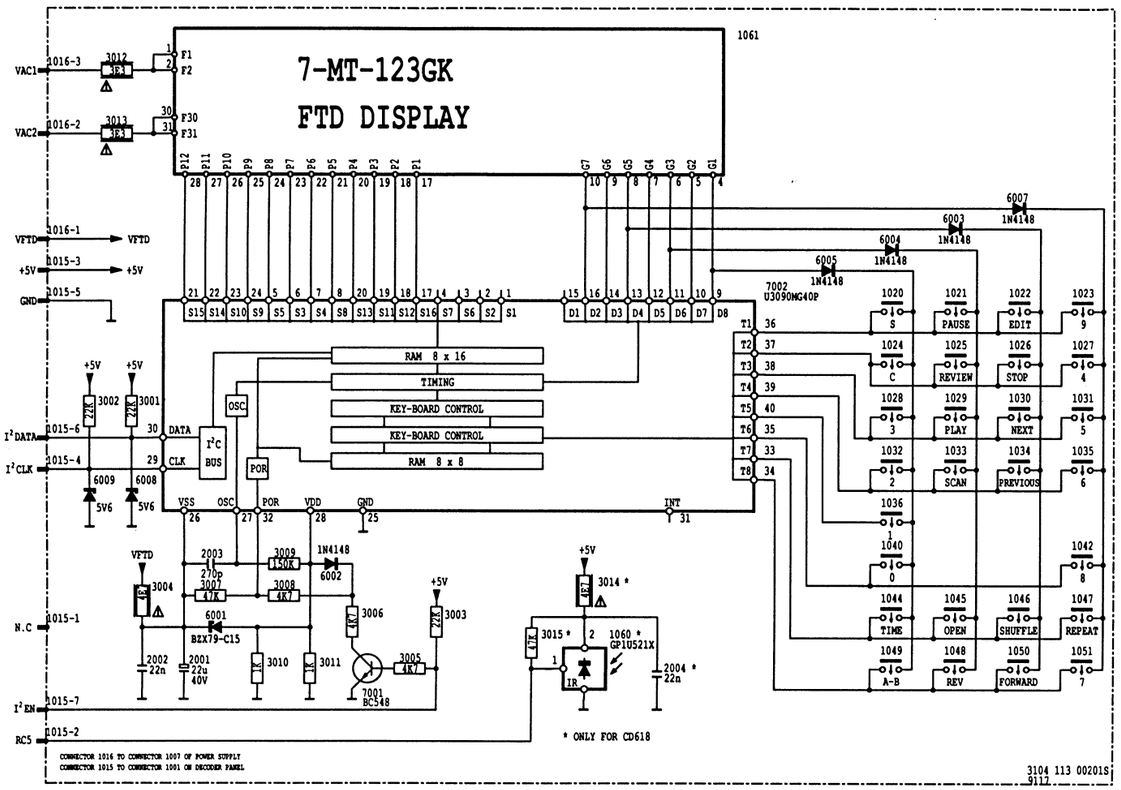
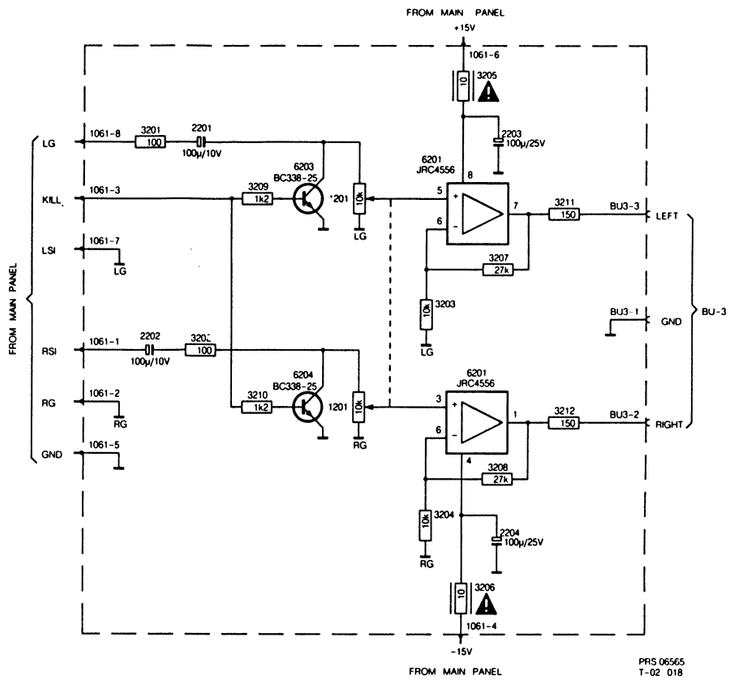
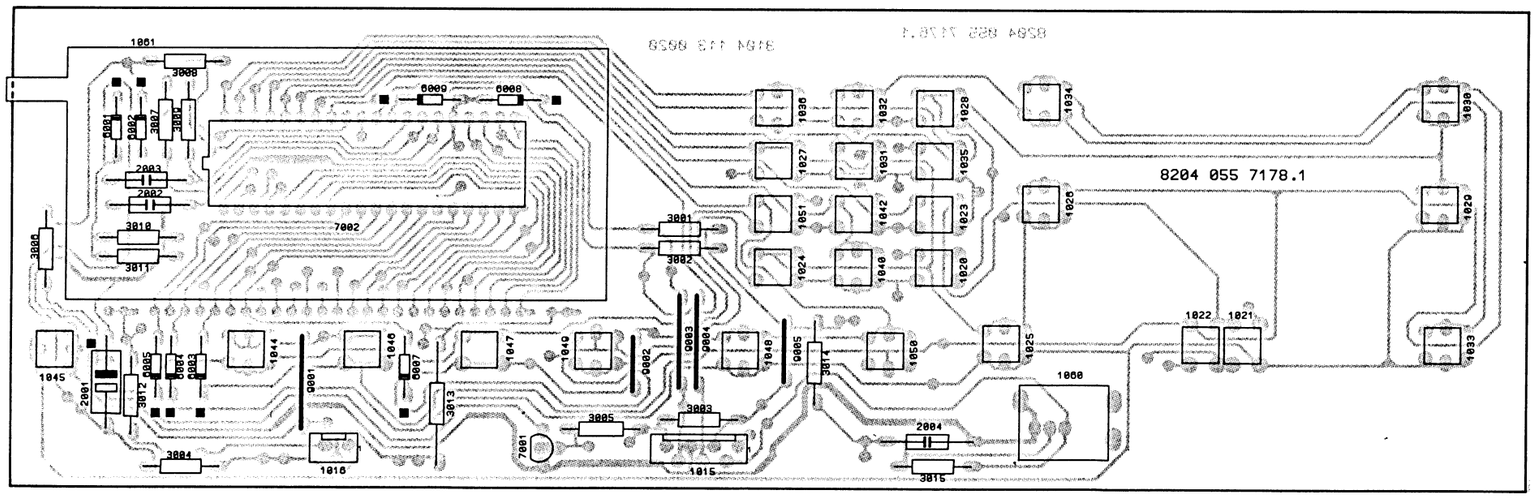
DISPLAY CIRCUIT DIAGRAM



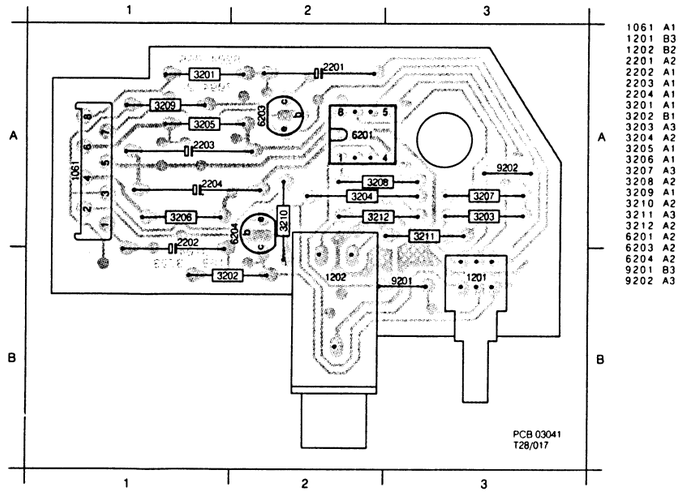
HEADPHONE CIRCUIT DIAGRAM



DISPLAY PANEL



HEADPHONE PANEL



CONTROL & DISPLAY PARTSLIST

Miscellaneous

	4822 256 91787	FTD holder
1015	4822 267 50621	socket
1016	4822 267 40696	socket 3-fold
1020	4822 276 13112	Tact switch
1021	4822 276 13112	Tact switch
1022	4822 276 13112	Tact switch
1023	4822 276 13112	Tact switch
1024	4822 276 13112	Tact switch
1025	4822 276 13104	Tact switch
1026	4822 276 13104	Tact switch
1027	4822 276 13112	Tact switch
1028	4822 276 13112	Tact switch
1029	4822 276 13104	Tact switch
1030	4822 276 13104	Tact switch
1031	4822 276 13112	Tact switch
1032	4822 276 13104	Tact switch
1033	4822 276 13104	Tact switch
1034	4822 276 13104	Tact switch
1035	4822 276 13112	Tact switch
1036	4822 276 13104	Tact switch
1040	4822 276 13104	Tact switch
1042	4822 276 13112	Tact switch
1044	4822 276 13104	Tact switch
1045	4822 276 13104	Tact switch
1046	4822 276 13112	Tact switch
1047	4822 276 13112	Tact switch
1048	4822 276 13104	Tact switch
1049	4822 276 13104	Tact switch
1050	4822 276 13104	Tact switch
1051	4822 276 13112	Tact switch
1060	4822 214 51772	GP1U521X IR Receiver
1061	4822 130 90998	7-MT-123GK Display

2001	5322 124 21643	22µF 20% 40V
2002	4822 122 10166	22nF 30% 16V
2003	4822 122 31465	220pF 10% 50V
2004	4822 122 10166	22nF 30% 16V

3001	4822 050 22203	22k 1% 0,6W
3002	4822 050 22203	22k 1% 0,6W
3003	4822 050 22203	22k 1% 0,6W
3004	4822 052 10478	4Ω7 5% 0,33W
3005	4822 050 24702	4k7 1% 0,6W
3006	4822 050 24702	4k7 1% 0,6W
3007	4822 050 24703	47k 1% 0,6W
3008	4822 050 24702	4k7 1% 0,6W
3009	4822 050 21504	150k 1% 0,6W
3010	4822 050 21002	1k 1% 0,6W
3011	4822 050 21002	1k 1% 0,6W
3012	4822 052 10338	3Ω3 5% 0,33W
3013	4822 052 10338	3Ω3 5% 0,33W
3014	4822 052 10478	4Ω7 5% 0,33W
3015	4822 050 24703	47k 1% 0,6W

6001	4822 130 34281	BZX79-C15
6002	4822 130 30621	1N4148
6003	4822 130 30621	1N4148
6004	4822 130 30621	1N4148
6005	4822 130 30621	1N4148
6007	4822 130 30621	1N4148
6008	4822 130 34173	BZX79-C5V6
6009	4822 130 34173	BZX79-C5V6
7001	4822 130 40938	BC548
7002	4822 209 72226	U3090

VARIABLE HEADPHONE PARTSLIST

Miscellaneous

	4822 505 10571	hex nut for headphone socket
1201	4822 102 10398	Potmeter 10k LOG
1202	4822 267 30743	Headphone socket

2201	5322 124 21762	100µF 20% 10V
2202	5322 124 21762	100µF 20% 10V
2203	5322 124 21711	100µF 20% 25V
2204	5322 124 21711	100µF 20% 25V

3201	4822 051 10101	100Ω 2% 0,25W
3202	4822 051 10101	100Ω 2% 0,25W
3203	4822 050 21003	10k 1% 0,6W
3204	4822 050 21003	10k 1% 0,6W
3205	4822 052 10109	10Ω 5% 0,33W
3206	4822 052 10109	10Ω 5% 0,33W
3207	4822 116 52264	27k 5% 0,5W
3208	4822 116 52264	27k 5% 0,5W
3209	4822 051 10122	1k2 2% 0,25W
3210	4822 051 10122	1k2 2% 0,25W
3211	4822 050 21501	150Ω 1% 0,6W
3212	4822 050 21501	150Ω 1% 0,6W

6201	4822 209 82362	NJM4556D
6203	4822 130 40958	BC338-25
6204	4822 130 40958	BC338-25

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SERVO CIRCUIT DIAGRAM

SERVO

DECODER IC6549 HF DODS

FROM DECODER DIAGRAM

DECODER 2 KILL

6530A/2 MC68HC05C8 µP

CLOCK

RESET

CPU

I/O PORTS

TRAY DETECTION

TO R3574

TO R3557

6503 TDA8809

FUNCTION DECODER

3 1/2-BIT DAC

RADIAL LAG SHORT

RADIAL DRIVE

WOBBLE OSCILLATOR 650Hz

LAG HOLD

6500-(1/2B) TCA0372

TO RADIAL MOTOR VIA FLEX PRINT

GAIN INTEGRATING AMPLIFIER

OFFSET INTEGRATING AMPLIFIER

RADIAL ERROR PROCESSOR

ANTI SKATING

ADJUST 3520 50mV DC SEE ALSO TABLE B4

DIODE ASSEMBLY

FLEX PRINT (FOIL)

HF AMPLIFIER

EQUALIZER

GAIN CONTROL

HF AMPLITUDE SLICERS

SEE TABLE B3

GUARD RING PHOTODIODE

LASER ASSEMBLY

LASER SUPPLY

STARTING CIRCUIT

FOCUS NORMALIZING CIRCUIT

FOCUS DRIVE

6501 PHOTO DIODE SIGNAL PROCESSOR TDA 8808 ©

FLAT PACK

SEE ALSO TABLE B4

LASER OUTPUT ADJ

IN COMBINATION WITH 1 2 50mV

IN COMBINATION WITH 27 400 mV

FOCUS OFFSET

TURNTABLE MOTOR CONTROL

6512 -(1/2A) NJM4560

6504 -(1/2B) TCA0372

TO FOCUS MOTOR VIA FLEX PRINT

TO TURNTABLE MOTOR CIRCUIT

DECODER-A IC6549 PIN 24

FROM PIN 35 IC6530

-CHIP JUMPER (0n)

PRS 06971 T-08 115

CS 43 712

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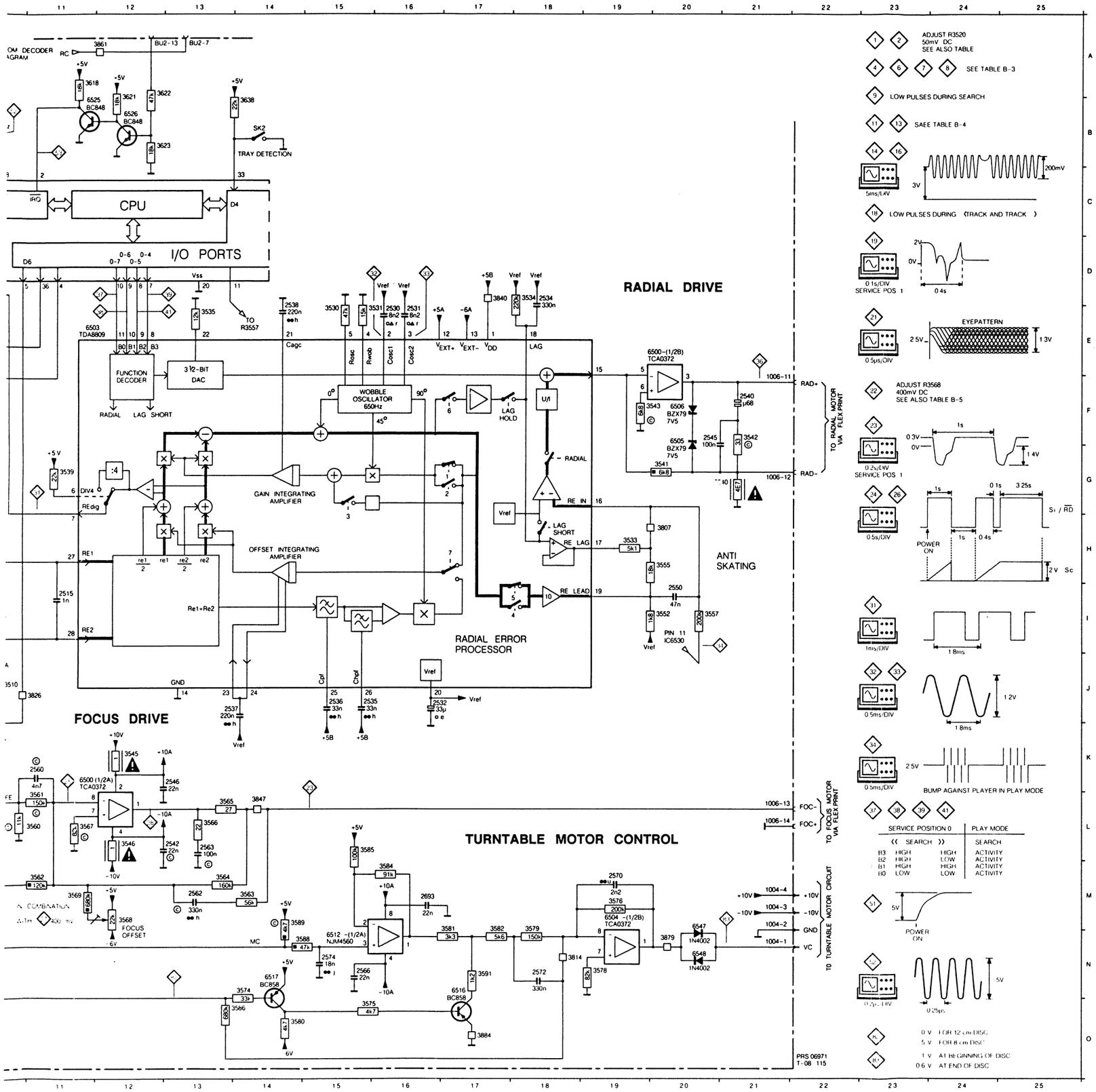

SK2 B14
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1002 K1
1003 K1
1503 B10
2501 G3
2503 F5
2504 G3
2506 F5
2507 F6
2509 F9
2510 G9
2511 G8
2513 J10
2514 F7
2515 I 11
2520 K3
2521 K4
2530 E16
2531 E16
2532 J16
2534 D18
2535 J15
2536 J15
2537 J13
2538 E14
2540 F21
2542 L13
2545 F20
2546 K13
2550 I 20
2560 K11
2561 M9
2562 M13
2563 L13
2566 N15
2570 M19
2572 N18
2574 N15
2575 H9
2610 B9
2621 B9
2622 B7
2693 M16
3501 F3
3502 G3
3503 E4
3504 E5
3505 F7
3506 F6
3507 F8
3508 F6
3509 L10
3510 J10
3520 M3
3521 L3
3522 J3
3523 K3
3524 K4
3530 E15
3531 E15
3533 H19
3534 D18
3535 E13
3539 G11
3540 G20
3541 G20
3542 F21
3543 F19
3545 K12
3546 L12
3552 I 20
3555 H20
3557 I 20
3560 L11
3561 L11
3562 M11
3563 M14
3564 M13
3565 L13
3566 L13
3567 L11
3568 M12
3569 M11
3574 N14
3575 O15
3576 M19
3578 N19
3579 N18
3580 O14
3581 N17
3582 N17
3584 M16
3585 L15
3586 O13
3588 N15
3589 M14
3591 N17
3618 A11
3621 B12
3622 A12
3623 B12
3627 B9
3628 B8
3629 B10
3638 B14
3646 E8
3647 E10
3807 H20
3814 N18
3815 E8
3824 N4
3826 J11
3829 M10
3831 B8
3840 D17
3847 L14
3851 L10
3861 A12
3879 N20
3884 O17
6500 E19
6500 K11
6502 K3
6503 E11
6504 M19
6505 F20
6506 F20
6512 N15
6516 N17
6517 N14
6525 B11
6526 B12
6530 C5
6547 M20
6548 N20

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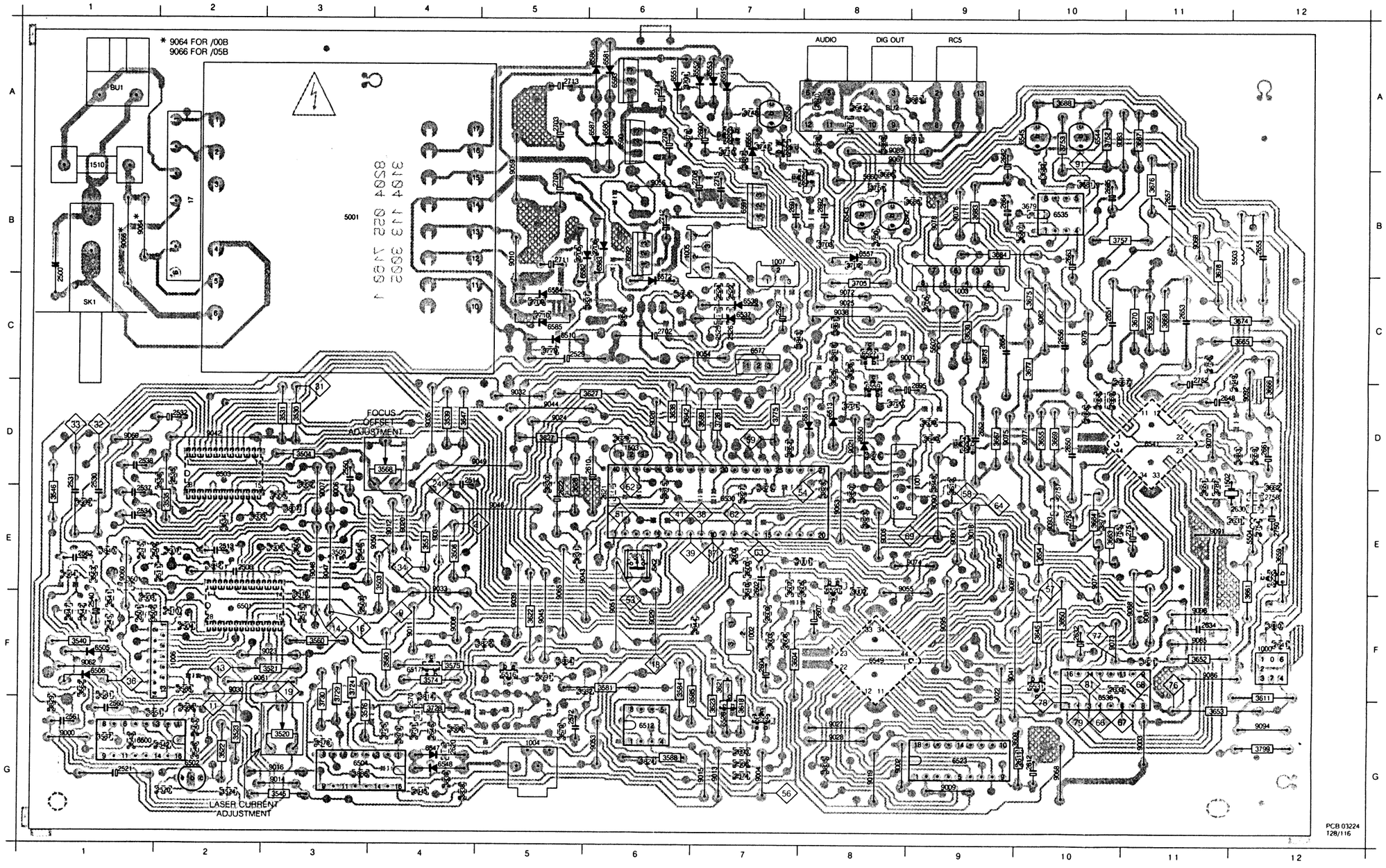
SERVO & DECODER PANEL component side

17 B2	2510 F2	2545 F1	2621 E6	2662 A9	2710 C5	3509 E3	3561 G1	3600 E7	3640 D9	3673 C9	3724 F3	3821 F11	3858 C6	6501 F2	6537 C7	6577 C7	9010 B5	9035 D4	9063 E8	9086 F11
BU1 A1	2511 E2	2546 G2	2622 E5	2663 B10	2711 B5	3510 F3	3562 F1	3602 E8	3642 D6	3674 C12	3725 G4	3822 F5	3861 C8	6502 G2	6538 C7	6580 A6	9011 F4	9038 C8	9064 B1	9087 E9
BU2 A8	2513 E2	2550 D3	2630 E12	2664 B9	2712 B6	3520 G3	3563 E1	3603 F7	3645 F10	3675 C10	3726 D7	3823 E8	3875 E7	6503 D2	6541 D11	6581 A6	9012 E4	9039 F5	9065 F5	9088 F11
SK1 C1	2514 D4	2560 G1	2631 E11	2665 B10	2713 A5	3521 F3	3564 E1	3604 F7	3646 E3	3676 B11	3728 G4	3824 G6	3876 D8	6504 G3	6542 B8	6582 C5	9013 G7	9041 F9	9066 B1	9089 A8
SK2 E6	2515 F3	2561 G1	2632 F10	2666 D10	2714 A6	3522 G2	3565 F2	3605 F8	3647 D4	3677 C10	3729 G3	3826 E6	3877 E10	6505 F1	6543 B8	6583 B6	9014 G3	9042 D2	9067 A8	9090 E9
1000 F12	2520 G2	2562 E1	2633 F10	2667 D10	2715 B7	3523 G2	3566 G2	3607 F7	3650 F10	3678 C11	3730 G3	3827 E7	3878 A6	6506 F1	6544 A10	6584 C5	9015 G7	9043 E5	9068 B11	9091 E11
1001 E9	2521 G1	2563 G2	2634 F11	2668 D10	2750 E12	3524 G2	3567 G1	3609 G10	3651 E11	3679 B10	3731 G4	3828 E8	3879 G4	6510 C5	6545 A10	6585 C5	9016 G3	9044 D5	9069 D1	9092 D12
1002 F7	2522 C7	2566 G7	2641 F12	2669 D10	2751 E11	3530 D3	3568 D4	3610 F7	3652 F11	3680 B10	3747 A7	3829 G1	3880 F12	6512 G6	6547 G4	6586 A6	9018 E9	9045 F5	9070 D11	9093 E10
1003 C9	2523 C7	2570 G4	2642 A8	2670 A8	2752 C11	3531 D3	3569 E1	3611 F12	3653 G11	3681 B10	3748 A7	3830 E5	3881 A8	6513 D8	6548 G4	6587 A6	9019 G8	9046 E5	9071 E10	9094 G12
1004 G5	2524 C7	2572 G5	2645 G4	2671 A8	2753 E10	3533 E2	3574 F4	3613 E9	3654 E10	3682 B10	3750 B8	3831 E5	3882 E2	6515 D8	6549 F8	6590 A6	9020 E4	9047 E3	9072 C8	9095 F9
1005 B6	2525 C7	2574 G7	2646 G4	2690 A7	2754 E12	3534 E2	3575 F4	3618 G7	3655 D10	3683 B9	3751 B8	3835 G8	3883 D12	6516 F5	6550 D8	6591 B7	9021 D8	9048 E3	9073 F10	9096 F11
1006 F2	2526 C7	2575 E1	2648 D11	2691 B7	2755 E10	3535 E2	3576 G3	3621 F7	3656 C11	3684 B9	3752 A10	3837 C6	3884 F5	6517 F4	6551 A6	6592 B6	9022 G9	9049 D4	9074 E8	
1007 B7	2529 C5	2600 E7	2649 D12	2692 B8	2756 C11	3539 D4	3578 G3	3622 F5	3659 E12	3685 B8	3753 A10	3838 G4	3885 A8	6519 A7	6552 A7	6593 A6	9023 F3	9050 E4	9075 D9	
1502 D11	2530 E1	2601 E7	2650 D10	2693 G7	2757 E10	3540 F1	3579 G5	3623 G7	3661 F12	3686 B8	3755 C9	3839 G4	3886 G3	6520 E8	6553 A7	9000 G1	9024 D5	9051 F6	9076 B9	
1503 D6	2531 E1	2602 F7	2651 C10	2695 D9	2758 E12	3541 F1	3580 F4	3625 D8	3662 D12	3687 A11	3757 B10	3840 E1	3887 A7	6523 G9	6554 A7	9001 C8	9025 C8	9053 G6	9077 D10	
1510 B1	2532 D2	2604 F7	2652 D9	2702 C6	3501 E1	3542 F1	3581 F6	3626 C8	3663 E10	3688 A10	3775 D7	3843 C7	3888 A8	6524 D9	6555 A7	9002 G8	9026 D6	9054 C7	9078 B9	
2500 C1	2534 E1	2607 F8	2653 C11	2703 A5	3502 F2	3543 G1	3582 F5	3627 D5	3664 E10	3701 A6	3779 C5	3844 F7	3889 A8	6525 G7	6556 A7	9003 G11	9027 G8	9055 E8	9079 C10	
2501 F1	2535 D2	2608 F7	2654 C9	2704 A6	3503 E4	3545 G3	3584 F6	3627 D5	3665 C12	3702 B8	3787 E11	3847 F1	5001 B3	6526 G7	6557 B8	9004 G7	9028 G8	9056 B6	9080 E9	
2503 F1	2536 E2	2609 F7	2655 B12	2705 B5	3504 D3	3546 E1	3585 G7	3628 E5	3666 D12	3703 B8	3799 G12	3848 E9	5502 C9	6527 C8	6558 A7	9005 E8	9029 F6	9058 G10	9081 F11	
2504 F2	2537 E1	2610 D6	2656 C10	2706 B6	3505 E3	3552 E3	3586 G4	3629 D6	3667 D9	3705 C8	3807 E3	3850 E8	5503 B12	6530 E7	6559 D8	9006 E3	9030 F2	9059 B5	9082 C10	
2506 E2	2538 D1	2611 G10	2657 B11	2707 B5	3506 E4	3555 E3	3588 G6	3630 C9	3668 C11	3710 A7	3814 G4	3851 G1	5504 E12	6531 F10	6562 B8	9007 E3	9031 E4	9060 E1	9083 A10	
2507 F3	2540 F1	2612 G10	2659 D12	2708 B7	3507 E2	3557 E4	3589 D7	3638 D6	3669 D10	3720 D8	3815 E6	3852 D7	5660 B8	6535 B10	6568 E12	9008 F4	9032 D5	9061 F2	9084 E9	
2509 E2	2542 G2	2620 G4	2661 D12	2709 C5	3508 E3	3560 F3	3591 F5	3639 D9	3670 C11	3721 D8	3818 C8	3856 C6	6500 G1	6536 F10	6572 C6	9009 G9	9033 E4	9062 F1	9085 F11	



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SERVO & DECODER PANEL solder side

17 B11	2509 E11	2542 G11	2620 G8	2661 D1	2709 C8	3508 E10	3560 F10	3591 F7	3639 D4	3670 C2	3721 D5	3818 C5	3856 C7	6500 G11	6536 F2	6572 C6	9009 G4	9033 F8	9062 F12	9085 F1
BU1 A11	2510 F11	2545 F12	2621 E7	2662 A3	2710 C7	3509 E9	3561 G11	3600 E6	3640 D4	3673 C3	3724 G9	3821 F2	3858 C6	6501 F10	6537 C6	6577 C5	9010 B8	9035 D9	9063 E5	9086 F1
BU2 A4	2511 E11	2546 G11	2622 E7	2663 B3	2711 B7	3510 F10	3562 G12	3602 F4	3642 D6	3674 C1	3725 G9	3822 F8	3861 C5	6502 G11	6538 C6	6580 A7	9011 F9	9038 C5	9064 B11	9087 E3
SK1 C12	2513 E10	2550 D9	2630 E1	2664 B3	2712 B6	3520 G10	3563 E12	3603 F5	3645 F3	3675 C3	3726 D6	3823 E5	3875 E5	6503 D10	6541 D2	6581 A7	9012 E9	9039 F8	9065 F7	9088 F2
SK2 E6	2514 D8	2560 G11	2631 E1	2665 B2	2713 A7	3521 F10	3564 E12	3604 F5	3646 E9	3676 B2	3728 G8	3824 G6	3876 D4	6504 G9	6542 B4	6582 B7	9013 G6	9041 F3	9066 B11	9089 A4
1000 F1	2515 F10	2561 G12	2632 F3	2666 D2	2714 A6	3522 G10	3565 F11	3605 F5	3647 D8	3677 C3	3729 G9	3826 E7	3877 E2	6505 F12	6543 B5	6583 B7	9014 G10	9042 D10	9067 A4	9090 E4
1001 E4	2520 G11	2562 E12	2633 F2	2667 D2	2715 B6	3523 G10	3566 G11	3607 F5	3650 F3	3678 C1	3730 G10	3827 E6	3878 A6	6506 F12	6544 A2	6584 C7	9015 G6	9043 E7	9068 B1	9091 E1
1002 F6	2521 G11	2563 G11	2634 F1	2668 D2	2750 E1	3524 G10	3567 G11	3609 G3	3651 E1	3679 B3	3731 G9	3828 E5	3879 G9	6510 C7	6545 A3	6585 C7	9016 G10	9044 D7	9069 D11	9092 D1
1003 C4	2522 C6	2566 G6	2641 F1	2669 D2	2751 E2	3530 D10	3568 D9	3610 F6	3652 F1	3680 B3	3747 A5	3829 G12	3880 F1	6512 G6	6547 G9	6586 A7	9018 E4	9045 F8	9070 D1	9093 E3
1004 G7	2523 C5	2570 G9	2642 A5	2670 A5	2752 D1	3531 D10	3569 E12	3611 G1	3653 G1	3681 B2	3748 A6	3830 E7	3881 A4	6513 D5	6548 G8	6587 A7	9019 G4	9046 E8	9071 E2	9094 G1
1004 G7	2524 C6	2572 G7	2645 G9	2671 A5	2753 E3	3533 E10	3574 F8	3613 E4	3654 E3	3682 B3	3750 B4	3831 E7	3882 E10	6515 D5	6549 F4	6590 A7	9020 E9	9047 E10	9072 C5	9095 F4
1005 B6	2525 C6	2574 G6	2646 G9	2690 A6	2754 E1	3534 E10	3575 F8	3617 D7	3655 D3	3683 B4	3751 B4	3835 G5	3883 D1	6516 F8	6550 D5	6591 B6	9021 D5	9048 E10	9073 F2	9096 F1
1006 F11	2526 C6	2575 E11	2648 D1	2691 B5	2755 E2	3535 E11	3576 G9	3618 G6	3656 C2	3684 B3	3752 A2	3837 C7	3884 F7	6517 F8	6551 A6	6592 B7	9022 G3	9049 D8	9074 E4	
1007 B5	2529 C7	2600 E6	2649 D1	2692 B5	2756 C1	3539 D8	3578 G9	3621 F6	3659 E1	3685 B4	3753 A3	3838 G8	3885 A4	6519 A6	6552 A6	6593 A7	9023 F10	9050 E9	9075 D3	
1502 E1	2530 E12	2601 E5	2650 D3	2693 G6	2757 E3	3540 F12	3579 G7	3622 F8	3661 F1	3686 B4	3755 G4	3839 G8	3886 G9	6520 F5	6553 A6	9000 G12	9024 D7	9051 F7	9076 B4	
1503 D6	2531 E12	2602 F6	2651 C2	2695 D4	2758 E1	3541 F12	3580 F9	3623 G6	3662 E1	3687 A2	3757 B2	3840 E11	3887 B6	6523 G4	6554 A5	9001 C4	9025 C5	9053 G7	9077 D3	
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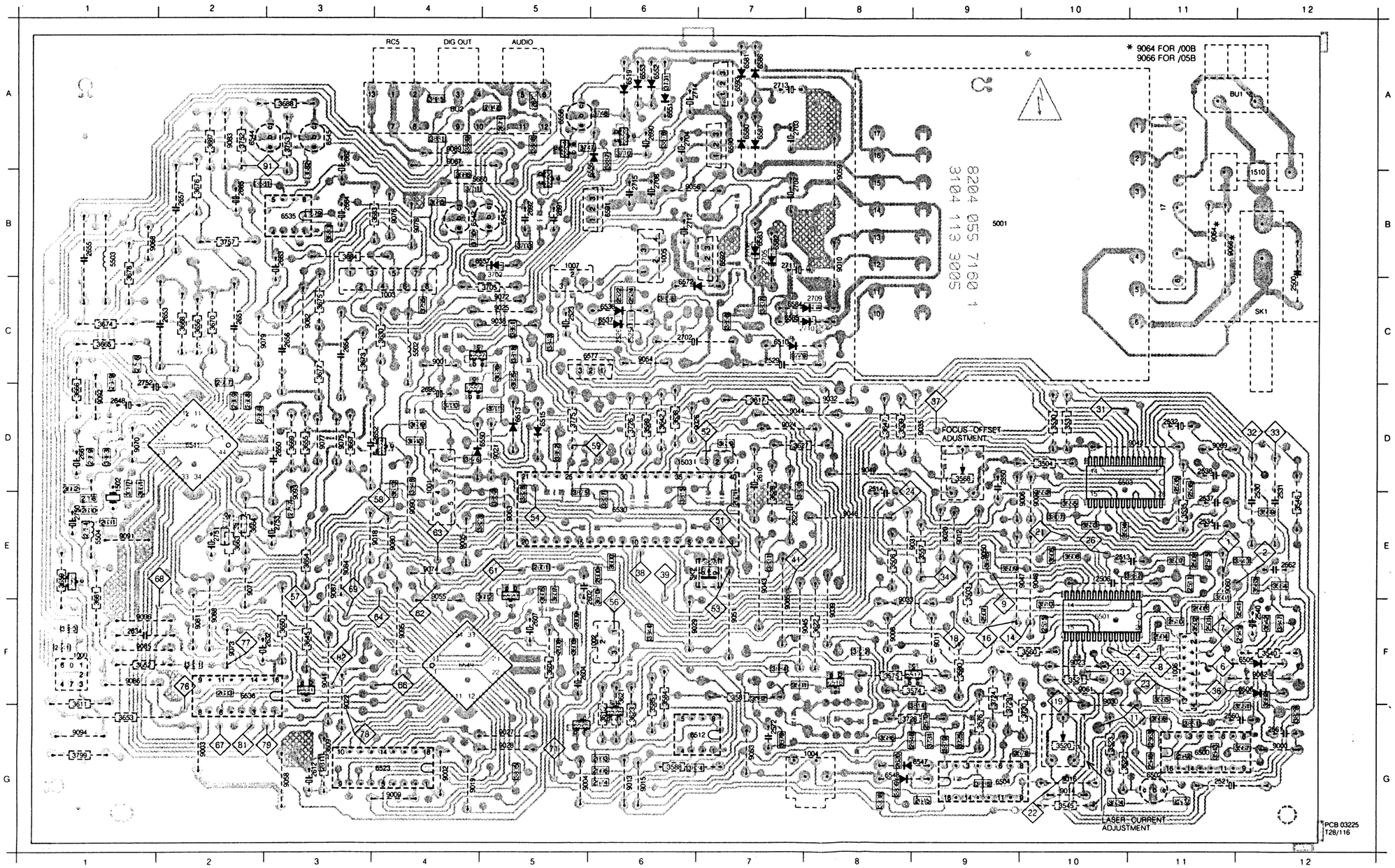
2500 C12	2534 E11	2607 F5	2653 C2	2703 A7	3502 F11	3543 G11	3582 F7	3626 C5	3664 E2	3701 A6	3779 C7	3844 F6	3889 A4	6525 G5	6556 A6	9003 G2	9027 G5	9055 F4	9079 C2	
2501 F11	2535 E11	2608 F5	2654 C3	2704 A6	3503 F9	3545 G10	3584 G6	3627 D7	3665 C1	3702 C5	3787 E1	3847 F12	5001 B9	6526 G6	6557 B4	9004 G5	9028 G5	9056 B6	9080 E4	
2503 F11	2536 E11	2609 F5	2655 B1	2705 B7	3504 D10	3546 E12	3585 G6	3628 E7	3666 D1	3703 B5	3799 G1	3848 E4	5502 C4	6527 C4	6558 A5	9005 E4	9029 F6	9058 G3	9081 F2	
2504 F11	2537 E11	2610 D7	2656 C3	2706 B7	3505 E10	3552 E10	3586 G8	3629 D7	3667 D3	3705 C4	3807 E10	3850 E5	5503 B1	6530 E6	6559 D4	9006 E10	9030 F10	9059 B8	9082 C3	
2506 E10	2538 D11	2611 G3	2657 B2	2707 B7	3506 E8	3555 E10	3588 G6	3630 C4	3668 C2	3710 A6	3814 G8	3851 G11	5504 E1	6531 F3	6562 B5	9007 E10	9031 E9	9060 E11	9083 A2	
2507 F9	2540 F12	2612 G3	2659 D1	2708 B6	3507 E11	3557 E9	3589 D6	3638 D6	3669 D3	3720 D4	3815 E6	3852 D5	5660 B4	6535 B3	6568 E1	9008 F8	9032 D8	9061 F10	9084 E3	



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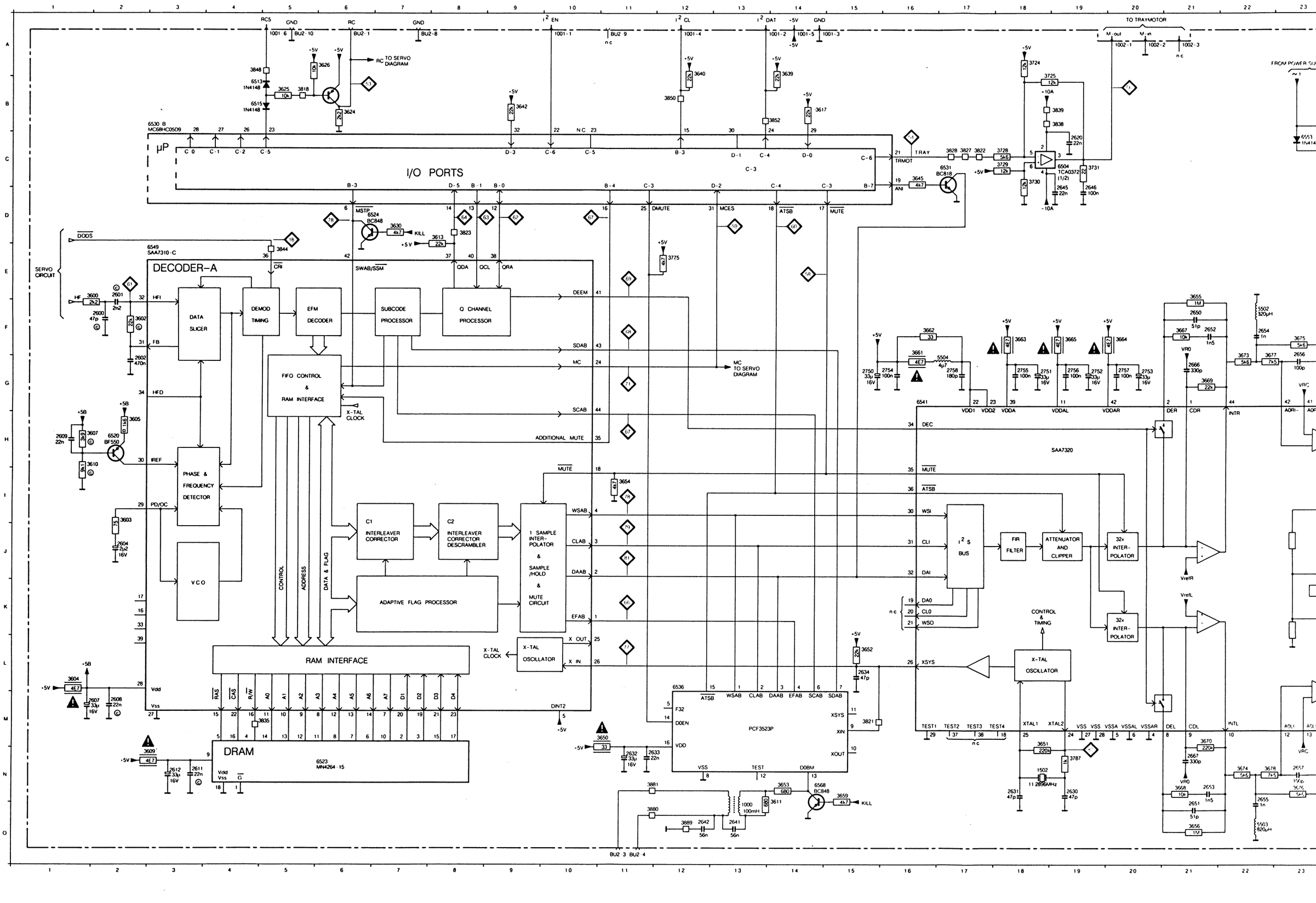
DECODER CIRCUIT DIAGRAM



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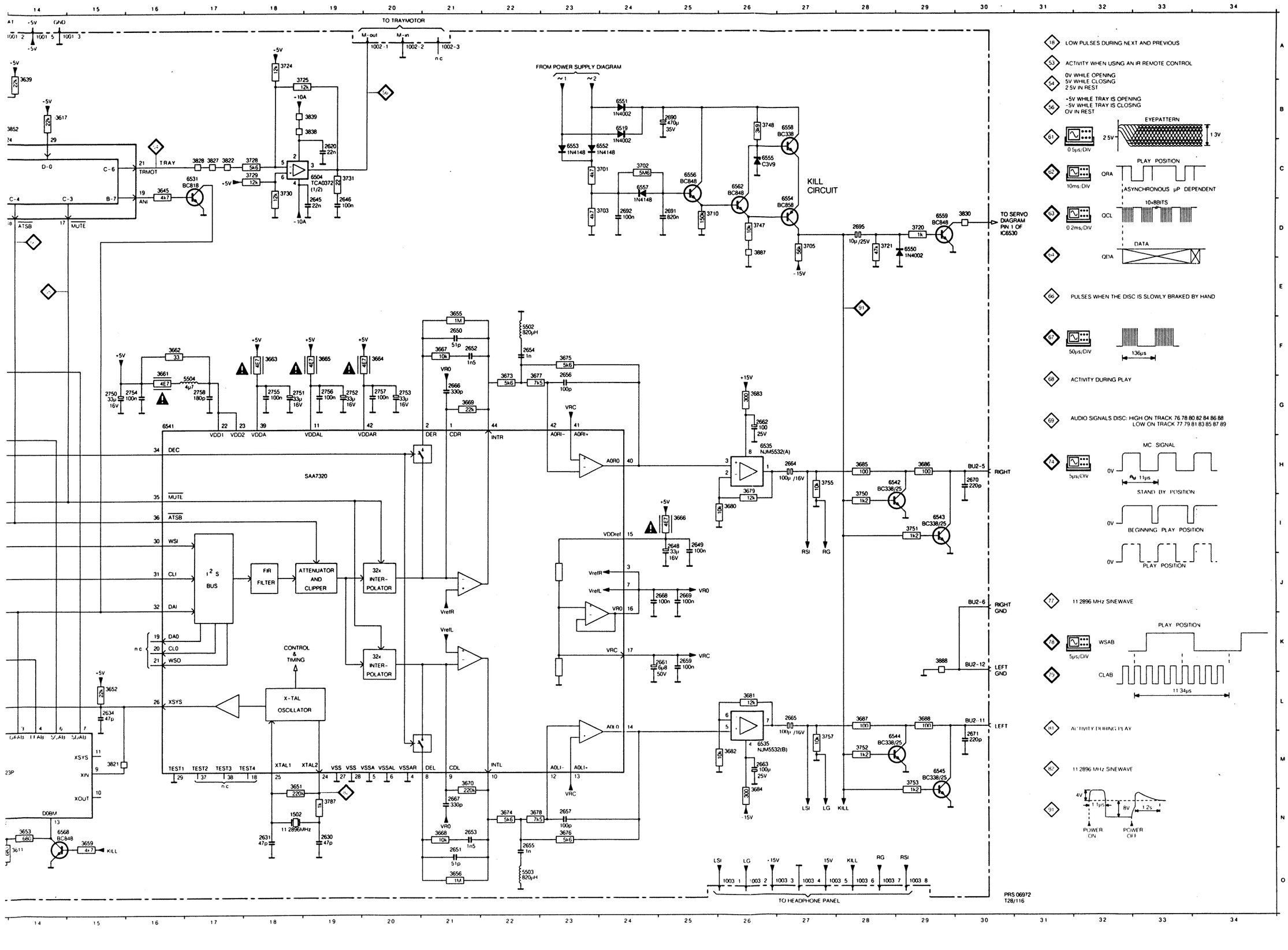
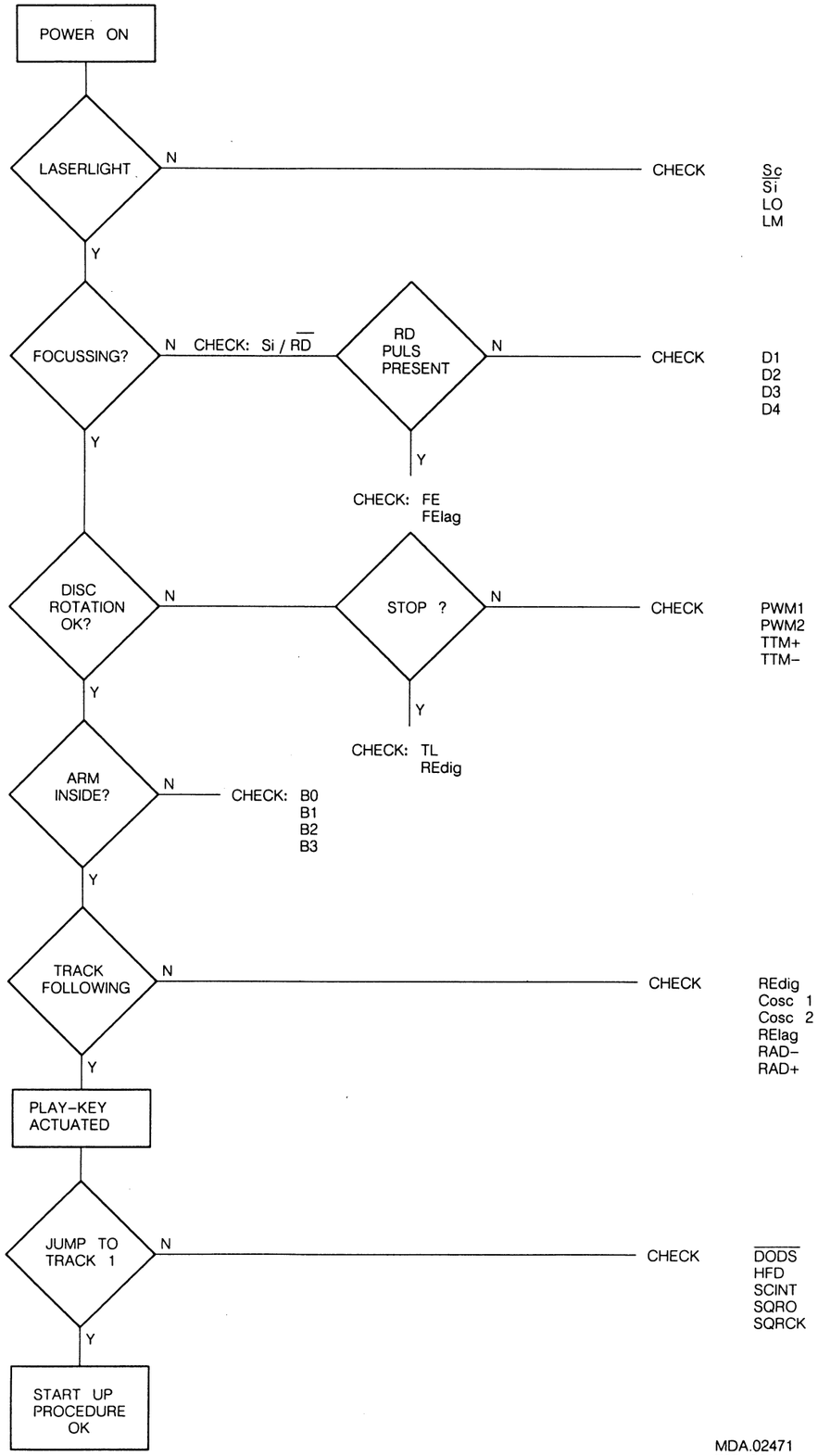


1000	O13	3887 D26
1502	N18	3888 K29
2600	F2	3889 O12
2601	E2	5502 F22
2602	G2	5503 Q22
2604	J2	5504 G17
2607	M1	6513 B8
2608	M2	6515 B4
2609	H1	6519 B24
2611	N3	6520 H2
2612	N3	6523 N6
2620	C19	6524 D6
2630	N19	6530 B2
2631	N18	6531 C17
2632	N11	6535 H26
2633	N11	6535 M26
2634	L15	6536 L12
2641	O13	6541 G16
2642	O12	6542 H28
2645	D19	6543 I29
2646	D19	6544 M28
2648	I25	6545 M29
2649	I25	6549 E2
2650	F21	6550 D29
2651	Q21	6551 B24
2652	F21	6552 C23
2653	N21	6553 C23
2654	F22	6554 D27
2655	N22	6555 C26
2656	G23	6556 C25
2657	N23	6557 C24
2659	K25	6558 B27
2661	K24	6559 D29
2662	G26	6562 C26
2663	M26	6568 N14
2664	H27	
2665	L27	
2666	G21	
2667	N21	
2668	J24	
2669	J25	
2670	H30	
2671	M30	
2690	B25	
2691	D25	
2692	D24	
2695	D28	
2750	G15	
2754	G16	
2755	G18	
2756	G19	
2757	G20	
2758	G17	
3600	E1	
3602	F2	
3603	I2	
3604	L1	
3605	H2	
3607	H1	
3609	N3	
3610	H1	
3611	O14	
3613	D8	
3617	B14	
3624	B6	
3625	B5	
3626	A6	
3630	D7	
3639	A14	
3640	A12	
3642	B9	
3645	C16	
3650	M11	
3651	M18	
3652	L15	
3653	N14	
3654	I11	
3655	E21	
3656	Q21	
3659	N15	
3661	F16	
3662	F16	
3663	F18	
3664	F20	
3665	F19	
3666	I25	
3667	F21	
3668	N21	
3669	G21	
3670	M21	
3673	G22	
3674	N22	
3675	F23	
3676	N23	
3677	G22	
3678	N22	
3679	H26	
3680	I26	
3681	L26	
3682	M26	
3683	G26	
3684	N26	
3685	H28	
3686	H29	
3687	L28	
3688	L29	
3701	C23	
3702	C24	
3703	D23	
3705	D27	
3710	D25	
3720	D29	
3721	D28	
3724	A18	
3725	B18	
3728	B18	
3729	C18	
3730	C18	
3731	C19	
3747	D26	
3748	B26	
3750	I28	
3751	I29	
3752	M28	
3753	M29	
3755	H27	
3757	M27	
3775	E12	
3787	N19	
3818	B5	
3821	M15	
3822	C17	
3823	D8	
3827	C17	
3828	C17	
3830	D30	
3835	M5	
3838	B19	
3839	B19	
3844	E5	
3848	A4	
3850	B12	
3852	B14	
3880	O11	
3881	N11	

START UP PROCEDURE



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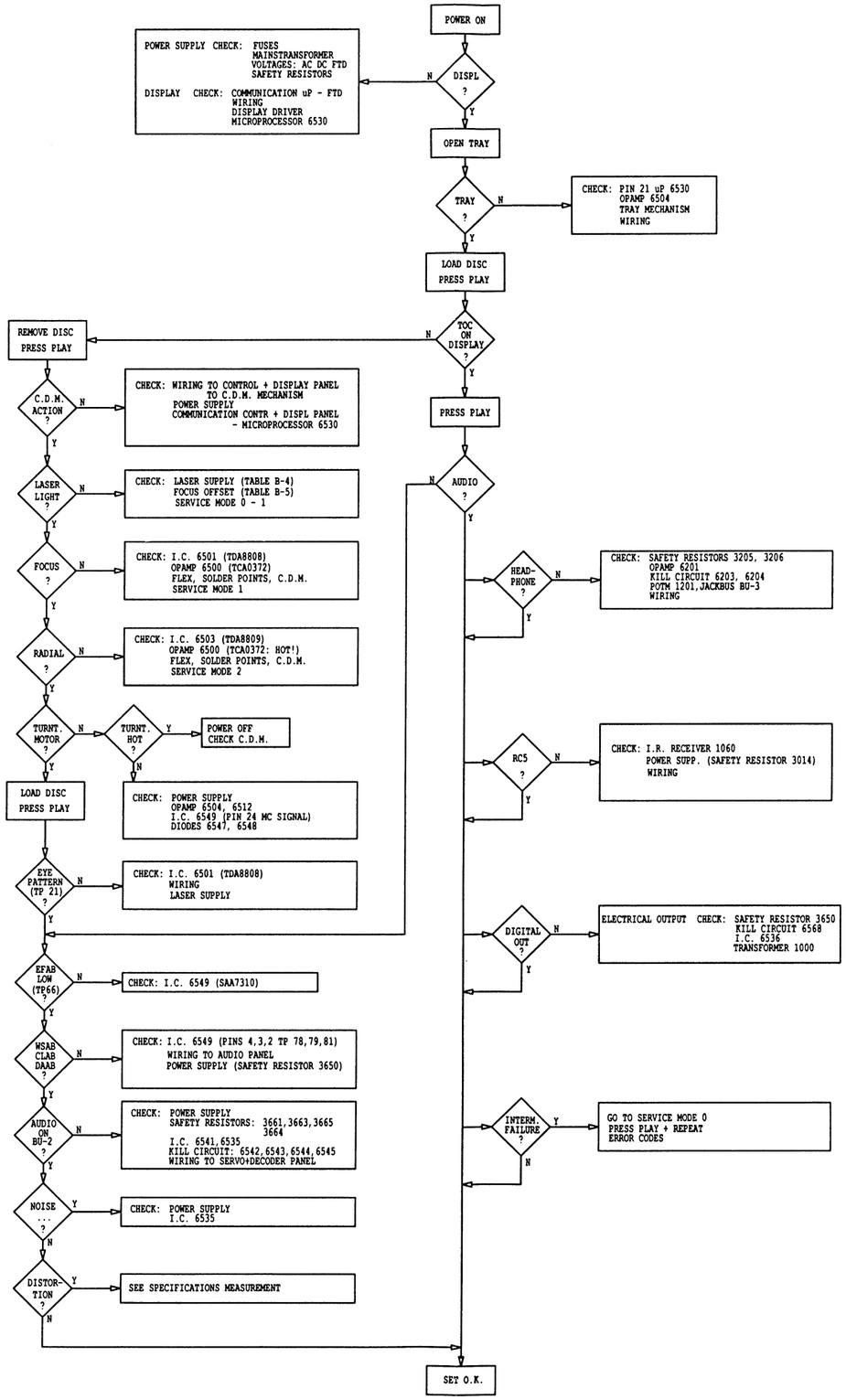
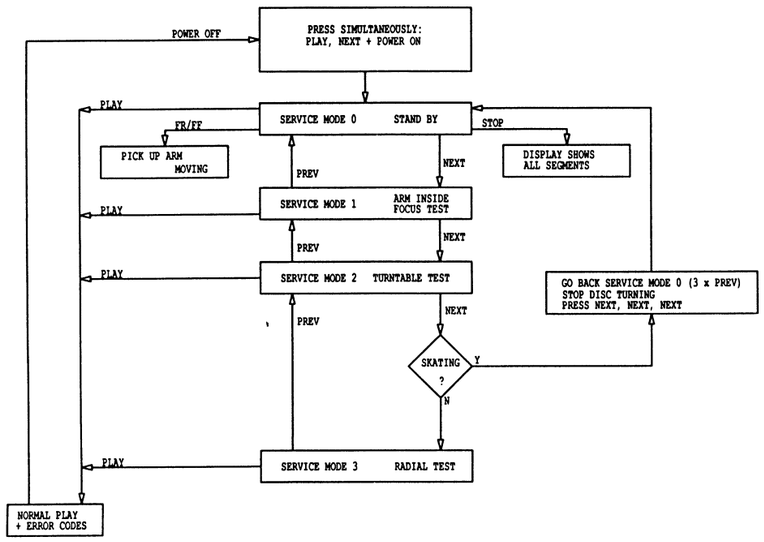
T07–9001

FAULT FINDING GUIDE



SERVICE TESTPROGRAM



HAS1005
9117

ERROR CODE TABLE

SYSTEM ERRORS

ERROR 02 Focus error, no track loss
ERROR 03 Radial start error, min. exentricity point not found
ERROR 04 Focus error, focus lost while starting
ERROR 05 TL error when recovering TL in play
ERROR 06 TL error during jump
ERROR 07 Subcode error, no valid cubcode within 3 sec.
ERROR 08 TOC error, out of lead-in while reading TOC

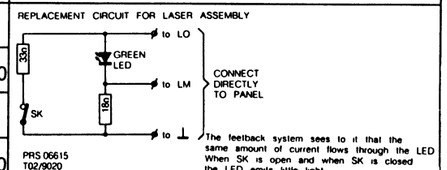
B-3 CHECK OF THE PHOTODIODES

Step	Signal	Mode	◇	∅			Remarks
1	D2 D1 D3 D4	power on	4 6 7 8	–	–	signal 4=6=7=8	Signal depends on Distance lens ↔ IR LED of remote control

T-23356A

B-4 CHECK OF LASER SUPPLY

The laser, the lasersupply plus the monitor diode form a feedback system.
A defect in the lasersupply may result in the destruction of the laser. If, in that case, the laser is replaced, (= complete C.D.M.-unit) the new laser will also become defective. However, it is impossible to check and repair a feedback system if a link is missing. For this reason the laser supply can be checked with teh replacement circuit for laser assembly.

Step	Signal	Mode	◇		Remarks
1	LO	serv. pos. 2 SK	9 (V)	1.8<V <2.3	REPLACEMENT CIRCUIT FOR LASER ASSEMBLY 
	LM		11 (V)	170<mV <220	
2	LO	serv. pos. 2 SK	9 (V)	1.8<V <2.3	
	LM		11 (V)	170<mV <220	
3	LO	Power on	9 (V)	0V ± 0.2V	No light

After opening SK, the led will emit more light for a short moment.

T-23356B

B-4 LASER CURRENT ADJUSTMENT

Step	Signal	Mode	◇	∅			Remarks
1	–	Power off	–	–	–	–	Check if FLEX-FOIL is properly connected
2	–	Power off	13 (Ω)	R3520	1kΩ +10% −0	–	Pre-adjustment Ohmic value
3	–	Power off	–	R3568	–	–	Set to mid-position
4	laser current ≙ voltage across R3501	Test disc 5A play	1 (V) 2 mV DC	–	⩾ 15mV	–	If < 15mV then go to step 3 and set R3520 to 1/4 or 3/4. Try again.
5	laser current ≙ voltage across R3501	Test disc 5A play	1 (V) 2 mV DC	R3520	50mV	–	–
6	FE-LAG	Test disc 5A track 1 play	22 (V)	R3568	400mV	–	Fine adjustment

T-23356C

B-5 ADJUSTMENT OF FOCUS-OFFSET

Step	Signal	Mode	◇	∅			Remarks
1	–	Power on no disc	–	R3568	–	–	adjust for optical mid-position of the focus motor
2	FE LAG	Play Test disc 5 Track 1	22	R3568	400mV ± 40 mV DC	–	fine adjustment

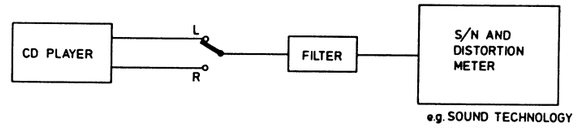
T-23356D

D-6 SPECIFICATIONS MEASUREMENT

Signal	Mode	◇			Remarks
BU2-L	Test disc 3, play, total harmonic distorsion	filter output	See technial data		See drawing 30459A12
BU2-R	Test disc 3, play, total harmonic distorsion	filter output	See technial data		See drawing 30459A12
BU2-L	Test disc 3, play signal-to-noise ratio	filter output	See technial data		See drawing 30459A12
BU2-R	Test disc 3, play signal-to-noise ratio	filter output	See technial data		See drawing 30459A12

T-23356M

Filter = 13th order filter 4822 395 30204



30 459 A12

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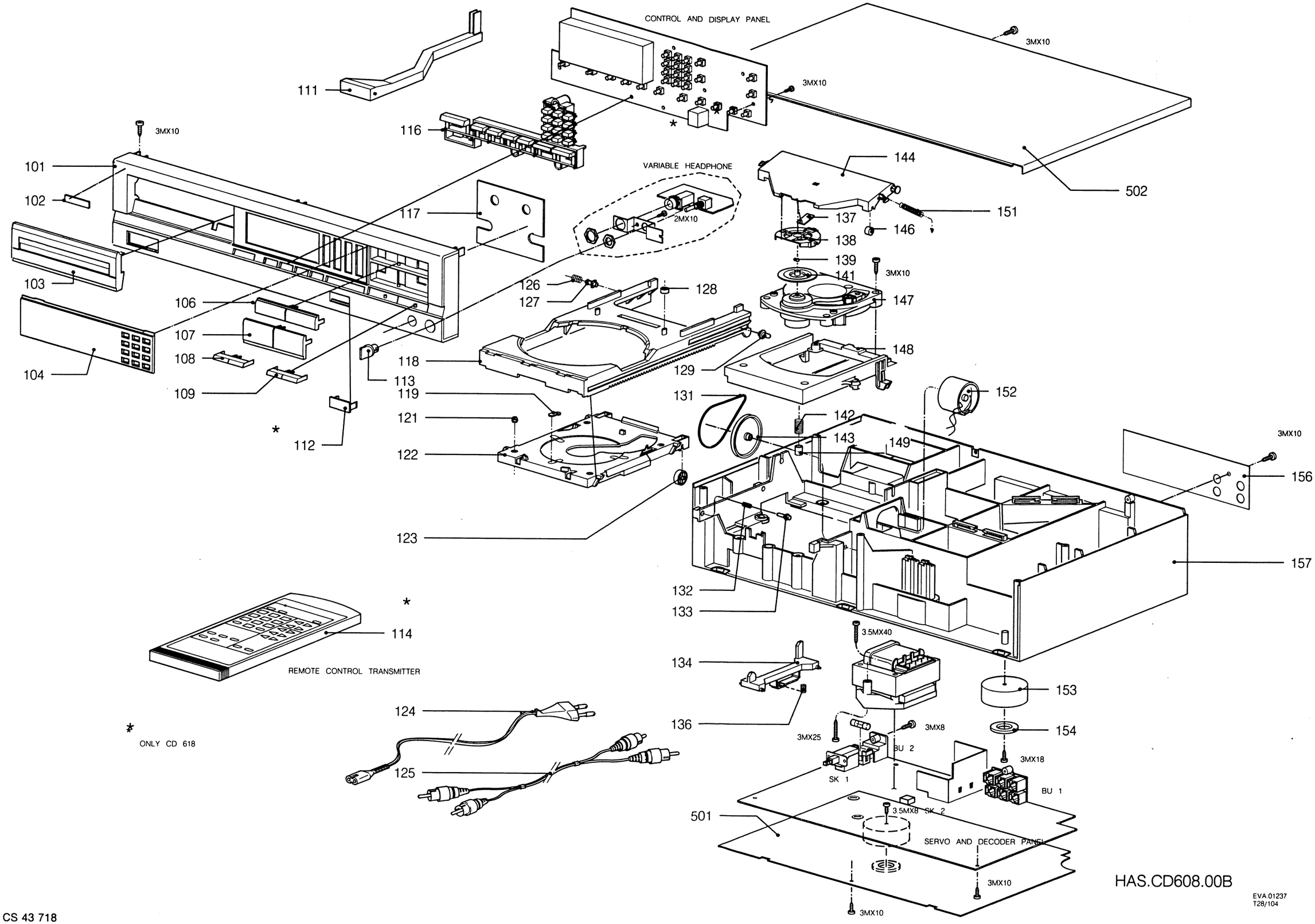
EXPLODED VIEW



* ONLY CD 618

HAS.CD608.00B

EVA.01237
T28/104

Mechanical Partslist

101	4822 444 40461 for CD608
101	4822 444 40463 for CD618
102	4822 459 10887
103	4822 444 40464
104	4822 381 11269
106	4822 410 60094
107	4822 410 60095
108	4822 410 61414
109	4822 410 61415
111	4822 410 60105
112	4822 381 11051
113	4822 411 61674
114	4822 218 10411
116	4822 410 61413
118	4822 444 50603
121	4822 325 50177
122	4822 466 93011
123	4822 528 90638
124	4822 321 10249 for /00B
124	4822 321 10719 for /05B
124	4822 321 10523 for /10B
125	4822 321 22832
126	4822 492 52094
127	4822 402 61252
128	4822 532 51756
129	4822 402 61253
131	4822 358 10115
134	4822 402 50276
136	4822 492 52123
137	4822 466 92257
138	4822 402 61207
139	4822 520 40177
141	4822 530 80503
142	4822 492 51902
143	4822 528 81329
144	4822 444 60568
146	4822 528 90639
147	4822 691 30209
148	4822 402 61196
149	4822 466 61587
151	4822 492 32883
152	4822 361 21258
154	4822 462 41479
156	4822 444 30418
157	4822 464 50805
502	4822 444 30417

SERVO & DECODER PANEL PARTSLIST

Miscellaneous

0005	4822 492 63076	Spring clip
0021	4822 256 30274	Fuse holder
1000	4822 148 80281	Transformer Digital Out
BU-1	4822 265 20291	Mains inlet
BU-2	4822 267 40789	Cinch socket
SK1	4822 276 11309	Mains switch
SK2	4822 276 12523	Tray tact switch
1502	4822 242 71349	11,2896Mhz Crystal
1503	4822 242 72527	4Mhz Resonator
1510	4822 070 31251	Fuse 125 mA
5001	4822 146 30938	Mains transformer

⊣⊢

2500	4822 126 10454	3,3nF 20% 400V
2501	4822 122 33809	22nF 20% 50V
2503	4822 122 33809	22nF 20% 50V
2504	5322 122 34099	470pF 10% 63V
2506	4822 122 10166	22nF 30% 16V
2507	4822 122 33175	2,2nF 20% 50V
2509	5322 122 32531	100pF 5% 50V
2510	4822 122 33177	10nF 20% 50V
2511	4822 122 31746	1000pF 5% 50V
2513	4822 121 42408	220nF 5% 63V
2514	4822 121 51252	470nF 5% 63V
2515	4822 122 31746	1000pF 5% 50V
2520	5322 126 10794	220pF 10%
2521	5322 124 21643	22µF 20% 40V
2522	4822 122 33809	22nF 20% 50V
2523	4822 124 41799	220µF 63V
2524	4822 122 33809	22nF 20% 50V
2525	4822 122 33809	22nF 20% 50V
2526	4822 122 33809	22nF 20% 50V
2529	4822 124 22027	47µF 20% 25V
2530	4822 121 51321	8,2µF 1% 63V
2531	4822 121 51321	8,2µF 1% 63V
2532	4822 124 40272	33µF 20% 16V
2534	5322 121 42661	330nF 5% 63V
2535	4822 122 33342	33nF 10% 63V
2536	4822 122 33342	33nF 10% 63V
2537	4822 121 42408	220nF 5% 63V
2538	4822 121 42408	220nF 5% 63V
2540	4822 124 41583	0,68µF 50V Bipolar
2542	4822 122 33809	22nF 20% 50V
2545	4822 122 33496	100nF 10% 63V
2546	4822 122 33809	22nF 20% 50V
2550	4822 121 43526	47nF 5% 100V
2560	4822 121 43901	4n7 5% 50V
2561	4822 121 51252	470nF 5% 63V
2562	5322 121 42661	330nF 5% 63V
2563	4822 122 33496	100nF 10% 63V
2566	4822 122 33809	22nF 20% 50V
2570	4822 122 33175	2,2nF 20% 50V
2572	5322 121 42661	330nF 5% 63V
2574	4822 122 33893	18nF 10% 63V
2575	4822 122 32542	47nF 10% 63V
2600	5322 122 32452	47pF 5% 50V
2601	4822 122 31644	2,2nF 10% 63V
2602	4822 121 51252	470nF 5% 63V
2604	4822 124 41576	2,2µF 20% 50V
2607	4822 124 40272	33µF 20% 16V
2608	4822 122 33809	22nF 20% 50V
2609	4822 122 33809	22nF 20% 50V
2610	4822 124 20688	33µF 50% 16V

⊣⊢

2611	4822 122 33809	22nF 20% 50V
2612	4822 124 40272	33µF 20% 16V
2620	4822 122 33809	22nF 20% 50V
2621	4822 122 33809	22nF 20% 50V
2622	4822 124 22031	4,7µF 20% 63V
2630	5322 122 32452	47pF 5% 50V
2631	5322 122 32452	47pF 5% 50V
2632	4822 124 40272	33µF 20% 16V
2633	4822 122 33809	22nF 20% 50V
2634	4822 122 10181	47pF 5% 50V
2641	4822 122 33105	56nF 10% 63V
2644	4822 122 33809	22nF 20% 50V
2645	4822 122 33809	22nF 20% 50V
2646	4822 122 33496	100nF 10% 63V
2648	4822 124 40272	33µF 20% 16V
2649	4822 122 33496	100nF 10% 63V
2650	4822 121 51556	51pF 1% 630V
2651	4822 121 51556	51pF 1% 630V
2652	4822 121 42729	1,5nF 1% 250V
2653	4822 121 42729	1,5nF 1% 250V
2654	4822 121 50591	1nF 1% 630V
2655	4822 121 50591	1nF 1% 630V
2656	4822 121 51288	100pF 630V
2657	4822 121 51288	100pF 630V
2659	4822 122 33496	100nF 10% 63V
2661	4822 124 41578	6,8µF 20% 50V
2662	4822 124 41525	100µF 20% 25V
2663	4822 124 41525	100µF 20% 25V
2664	4822 124 22339	100µF 16V Bipolar
2665	4822 124 22339	100µF 16V Bipolar
2666	5322 122 31842	330pF 5% 63V
2667	5322 122 31842	330pF 5% 63V
2668	4822 122 33496	100nF 10% 63V
2669	4822 122 33496	100nF 10% 63V
2670	4822 122 32575	220pF 5% 50V
2671	4822 122 32575	220pF 5% 50V
2690	4822 124 41334	470µF 20% 35V
2691	4822 121 51436	820nF 10% 63V
2692	5322 121 42386	100nF 5% 63V
2693	4822 122 33809	22nF 20% 50V
2695	4822 124 41558	10µF 25V Bipolar
2702	5322 124 21643	22µF 20% 40V
2703	4822 124 41859	330µF 20% 35V
2704	4822 124 40433	47µF 20% 25V
2705	4822 122 33809	22nF 20% 50V
2706	4822 122 33809	22nF 20% 50V
2707	4822 124 41591	6800µF 20% 16V
2708	4822 124 40272	33µF 20% 16V
2709	4822 122 33809	22nF 20% 50V
2710	4822 122 33809	22nF 20% 50V
2711	4822 124 41853	1000µF 16V
2712	4822 124 40272	33µF 20% 16V
2713	4822 124 41334	470µF 20% 35V
2714	4822 124 40433	47µF 20% 25V
2715	5322 121 42386	100nF 5% 63V
2750	4822 124 40272	33µF 20% 16V
2751	4822 124 40272	33µF 20% 16V
2752	4822 124 40272	33µF 20% 16V
2753	4822 124 40272	33µF 20% 16V
2754	4822 122 33496	100nF 10% 63V
2755	4822 122 33496	100nF 10% 63V
2756	4822 122 33496	100nF 10% 63V
2757	4822 122 33496	100nF 10% 63V
2758	4822 126 10326	220pF 5% 50V

3501	4822 051 20472	4k7 5% 0,1W
3502	4822 051 20104	100k 5% 0,1W
3503	4822 052 10478	4Ω7 5% 0,33W
3504	4822 052 10478	4Ω7 5% 0,33W
3505	4822 051 20163	16k 5% 0,1W
3506	4822 051 10101	100Ω 2% 0,25W
3507	4822 050 21002	1k 1% 0,6W
3508	4822 051 20243	24k 5% 0,1W
3509	4822 051 20562	5k6 5% 0,1W
3510	4822 051 20103	10k 5% 0,1W
3520	4822 101 10685	4k7 20%LIN 0.05W
3521	4822 051 10221	220Ω 2% 0,25W
3522	4822 052 10189	18Ω 5% 0,33W
3523	4822 052 10129	12Ω 5% 0,33W
3524	4822 051 20101	100Ω 5% 0,1W
3530	4822 050 24703	47k 1% 0,6W
3531	4822 050 21503	15k 1% 0,6W
3533	4822 051 20512	5k1 5% 0,1W
3534	4822 051 20224	220k 5% 0,1W
3535	4822 050 21203	12k 1% 0,6W
3539	4822 051 10223	22k 2% 0,25W
3540	4822 052 10478	4Ω7 5% 0,33W
3541	4822 051 20682	6k8 5% 0,1W
3542	4822 051 20339	33Ω 5% 0,1W
3543	4822 051 20682	6k8 5% 0,1W
3545	4822 052 10108	1Ω 5% 0,33W
3546	4822 052 10108	1Ω 5% 0,33W
3552	4822 051 20182	1k8 5% 0,1W
3555	4822 051 20183	18k 5% 0,1W
3557	4822 050 22004	200k 1% 0,6W
3560	4822 050 21103	11k 1% 0,6W
3561	4822 051 20154	150k 5% 0,1W
3562	4822 051 20124	120k 5% 0,1W
3563	4822 051 20563	56k 5% 0,1W
3564	4822 051 20164	160k 5% 0,1W
3565	4822 051 20279	27Ω 5% 0,1W
3566	4822 051 20229	22Ω 5% 0,1W
3567	4822 051 20823	82k 5% 0,1W
3568	4822 100 11193	22k 20%LIN 0,05W
3569	4822 051 20684	680k 5% 0,1W
3574	4822 050 13303	33k 1% 0,4W
3575	4822 050 24702	4k7 1% 0,6W
3576	4822 050 22004	200k 1% 0,6W
3578	4822 051 20823	82k 5% 0,1W
3579	4822 051 20154	150k 5% 0,1W
3580	4822 050 24702	4k7 1% 0,6W
3581	4822 050 23302	3k3 1% 0,6W
3582	4822 051 20562	5k6 5% 0,1W
3584	4822 050 29103	91k 1% 0,6W
3585	4822 050 21004	100k 1% 0,6W
3586	4822 051 20684	680k 5% 0,1W
3588	4822 050 24703	47k 1% 0,6W
3589	4822 050 24702	4k7 1% 0,6W
3591	4822 051 20122	1k2 5% 0,1W
3600	4822 051 20222	2k2 5% 0,1W
3602	4822 051 20223	22k 5% 0,1W
3603	4822 051 20759	75Ω 5% 0,1W
3604	4822 052 10478	4Ω7 5% 0,33W
3605	4822 051 20162	1k6 5% 0,1W
3607	4822 051 20392	3k9 5% 0,1W
3609	4822 052 10478	4Ω7 5% 0,33W
3610	4822 051 20912	9k1 5% 0,1W
3611	4822 050 26801	680Ω 1% 0,6W
3613	4822 051 20223	22k 5% 0,1W
3617	4822 051 10223	22k 5% 0,125W

3618	4822 050 21803	18k 5% 0,125W
3621	4822 050 21803	18k 1% 0,6W
3622	4822 050 24703	47k 1% 0,6W
3623	4822 050 21803	18k 1% 0,6W
3625	4822 051 20103	10k 5% 0,1W
3626	4822 051 20103	10k 5% 0,1W
3627	4822 052 10478	4Ω7 5% 0,33W
3628	4822 050 22004	200k 1% 0,6W
3629	4822 051 20224	220k 5% 0,1W
3630	4822 050 24702	4k7 1% 0,6W
3638	4822 051 10223	22k 2% 0,25W
3639	4822 051 20223	22k 5% 0,1W
3640	4822 051 20223	22k 5% 0,1W
3642	4822 051 10223	22k 2% 0,25W
3645	4822 050 24702	4k7 1% 0,6W
3646	4822 051 20223	22k 5% 0,1W
3647	4822 051 10223	22k 2% 0,25W
3650	4822 052 10339	33Ω 5% 0,33W
3651	4822 051 20224	220k 5% 0,1W
3652	4822 051 10223	22k 2% 0,25W
3653	4822 050 26801	680Ω 1% 0,6W
3654	4822 050 24702	4k7 5% 0,125W
3655	4822 116 52235	1M 5% 0,5W
3656	4822 116 52235	1M 5% 0,5W
3659	4822 050 24702	4k7 1% 0,6W
3661	4822 052 10478	4Ω7 5% 0,33W
3662	4822 051 20339	33Ω 5% 0,1W
3663	4822 052 10478	4Ω7 5% 0,33W
3664	4822 052 10478	4Ω7 5% 0,33W
3665	4822 052 10478	4Ω7 5% 0,33W
3666	4822 052 10478	4Ω7 5% 0,33W
3667	4822 050 21003	10k 1% 0,6W
3668	4822 050 21003	10k 1% 0,6W
3669	4822 050 22203	22k 1% 0,6W
3670	4822 050 22203	22k 1% 0,6W
3673	4822 050 25602	5k6 1% 0,6W
3674	4822 050 25602	5k6 1% 0,6W
3675	4822 050 25602	5k6 1% 0,6W
3676	4822 050 25602	5k6 1% 0,6W
3677	4822 050 27502	7k5 1% 0,6W
3678	4822 050 27502	7k5 1% 0,6W
3679	4822 051 10123	12k 2% 0,25W
3680	4822 051 10103	10k 2% 0,25W
3681	4822 051 10123	12k 2% 0,25W
3682	4822 051 10103	10k 2% 0,25W
3683	4822 050 23001	300Ω 1% 0,6W
3684	4822 050 23001	300Ω 1% 0,6W
3685	4822 051 20101	100Ω 5% 0,1W
3686	4822 051 20101	100Ω 5% 0,1W
3687	4822 051 10101	100Ω 2% 0,25W
3688	4822 051 10101	100Ω 2% 0,25W
3701	4822 051 20472	4k7 5% 0,1W
3702	4822 116 82595	5M6 10% 0,1W
3703	4822 051 20473	47k 5% 0,1W
3705	4822 050 25603	56k 1% 0,6W
3710	4822 051 20154	150k 5% 0,1W
3720	4822 051 10102	1k 2% 0,25W
3721	4822 051 20473	47k 5% 0,1W
3724	4822 050 21203	12k 1% 0,6W
3725	4822 051 20163	16k 5% 0,1W
3726	4822 051 10223	22k 5% 0,125W
3728	4822 050 15602	5k6 1% 0,4W
3729	4822 050 21203	12k 1% 0,6W
3730	4822 050 21203	12k 1% 0,6W
3731	4822 051 20229	22Ω 5% 0,1W
3747	4822 051 20103	10k 5% 0,1W

3748	4822 051 20392	3k9 5% 0,1W
3750	4822 051 20122	1k2 5% 0,1W
3751	4822 051 20122	1k2 5% 0,1W
3752	4822 051 10122	1k2 2% 0,25W
3753	4822 051 10122	1k2 2% 0,25W
3755	4822 051 20103	10k 5% 0,1W
3757	4822 051 10103	10k 2% 0,25W
3775	4822 050 24702	4k7 1% 0,6W
3779	4822 051 20681	680Ω 5% 0,1W
3787	4822 051 10102	1k 2% 0,25W
3800	4822 051 10008	Chip jumper
3807	4822 051 10008	Chip jumper
3814	4822 051 10008	Chip jumper
3815	4822 051 10008	Chip jumper
3818	4822 051 10008	Chip jumper
3821	4822 051 10008	Chip jumper
3822	4822 051 10008	Chip jumper
3823	4822 051 10008	Chip jumper
3824	4822 051 10008	Chip jumper
3826	4822 051 10008	Chip jumper
3827	4822 051 10008	Chip jumper
3828	4822 051 10008	Chip jumper
3829	4822 051 10008	Chip jumper
3830	4822 051 10008	Chip jumper
3831	4822 051 10008	Chip jumper
3835	4822 051 10008	Chip jumper
3837	4822 051 10008	Chip jumper
3838	4822 051 10008	Chip jumper
3839	4822 051 10008	Chip jumper
3840	4822 051 10008	Chip jumper
3843	4822 051 10008	Chip jumper
3844	4822 051 10008	Chip jumper
3847	4822 051 10008	Chip jumper
3848	4822 051 10008	Chip jumper
3850	4822 051 10008	Chip jumper
3851	4822 051 10008	Chip jumper
3852	4822 051 10008	Chip jumper
3856	4822 051 10008	Chip jumper
3858	4822 051 10008	Chip jumper
3861	4822 051 10008	Chip jumper
3875	4822 051 10008	Chip jumper
3876	4822 051 10008	Chip jumper
3877	4822 051 10008	Chip jumper
3878	4822 051 10008	Chip jumper
3879	4822 051 10008	Chip jumper
3880	4822 051 10008	Chip jumper
3881	4822 051 10008	Chip jumper
3882	4822 051 10008	Chip jumper
3883	4822 051 10008	Chip jumper
3884	4822 051 10008	Chip jumper
3885	4822 051 10008	Chip jumper
3886	4822 051 10008	Chip jumper
3887	4822 051 10008	Chip jumper
3888	4822 051 10008	Chip jumper
3889	4822 051 10008	Chip jumper
3890	4822 051 10008	Chip jumper

5502	4822 157 51238	820µH
5503	4822 157 51238	820µH
5504	4822 157 51235	4,7µH 10%

6500	4822 209 72587	TCA0372DP2
6501	4822 209 73234	TDA8808T/C3
6502	4822 130 44121	BC338
6503	4822 209 73235	TDA8809T/C2
6504	4822 209 72587	TCA0372DP2
6505	4822 130 30861	BZX79-C7V5
6506	4822 130 30861	BZX79-C7V5
6510	4822 130 31456	BZV85-C5V1
6512	4822 209 83274	NJM4560D
6513	4822 130 30621	1N4148
6515	4822 130 30621	1N4148
6516	5322 130 42012	BC858A
6517	5322 130 42012	BC858A
6519	5322 130 30684	1N4002
6520	4822 130 42131	BF550
6523	4822 209 70422	MN4264-15
6524	4822 130 61207	BC848
6525	4822 130 61207	BC848
6526	4822 130 61207	BC848
6527	5322 130 41983	BC858B
6530	4822 209 30075	MC68HC05D9P/ZC400009
6531	4822 130 42675	BC818
6535	4822 209 83662	NJM5532DD
6536	4822 209 62588	PCF3523P
6537	5322 130 30684	1N4002
6538	5322 130 30684	1N4002
6541	4822 209 61708	SAA7321GP
6542	4822 130 40958	BC338-25
6543	4822 130 40958	BC338-25
6544	4822 130 40958	BC338-25
6545	4822 130 40958	BC338-25
6547	5322 130 30684	1N4002
6548	5322 130 30684	1N4002
6549	4822 209 61759	SAA7310GP/S5
6550	5322 130 30684	1N4002
6551	5322 130 30684	1N4002
6552	4822 130 30621	1N4148
6553	4822 130 30621	1N4148
6554	4822 130 42513	BC858C
6555	4822 130 31981	BZX79-C3V9
6556	5322 130 41981	BC848A
6557	4822 130 30621	1N4148
6558	4822 130 44121	BC338
6559	4822 130 61207	BC848
6562	4822 130 61207	BC848
6568	4822 130 61207	BC848
6571	4822 209 60772	X24C16
6572	4822 130 61219	BZX79-C10
6577	4822 209 80808	MC78M15CT
6580	5322 130 30684	1N4002
6581	5322 130 30684	1N4002
6582	5322 130 30684	1N4002
6583	5322 130 30684	1N4002
6584	5322 130 30684	1N4002
6585	5322 130 30684	1N4002
6586	5322 130 30684	1N4002
6587	5322 130 30684	1N4002
6590	4822 209 80808	MC78M15CT
6591	4822 209 71579	TY40408
6592	4822 209 82056	MC7906CT
6593	5322 130 41899	MC7915CT

PHILIPS

Service Information

Betrifft:

CD-Spieler CD 608/CD 618
neuer Bitstream - DAC

Verteiler:

INTERN UND EXTERN

Im Verlauf der Fertigung ist der Bitstream-Wandler (IC 6541) SAA 7321GP, Version M3B, vorübergehend ersetzt worden durch SAA 7323GP, Version M5A. Danach wurde diese Ausführung wiederum ersetzt durch SAA 7321GP, Version M5B.
Um optimale Ergebnisse zu erzielen, sind folgende Änderungen in der Beschaltung des IC eingeführt worden:

Components	SAA7321/M3B 4822 209 61708	SAA7323/M5A 4822 209 63997	SAA7321/M5B 4822 209 30706
C2666/C2667	330pF	560pF	560pF
C2654/C2655	1nF	270pF	1nF
C2658	-	100nF	100nF
C2758	180pF/56pF	-	-

Decoder-Panels mit den unterschiedlichen IC-Ausführungen sind wie folgt gekennzeichnet:

SAA 7321/M3B	-
SAA 7323/M5B	Sticker "A" *), "B"
SAA 7321/M5B	Sticker "C"

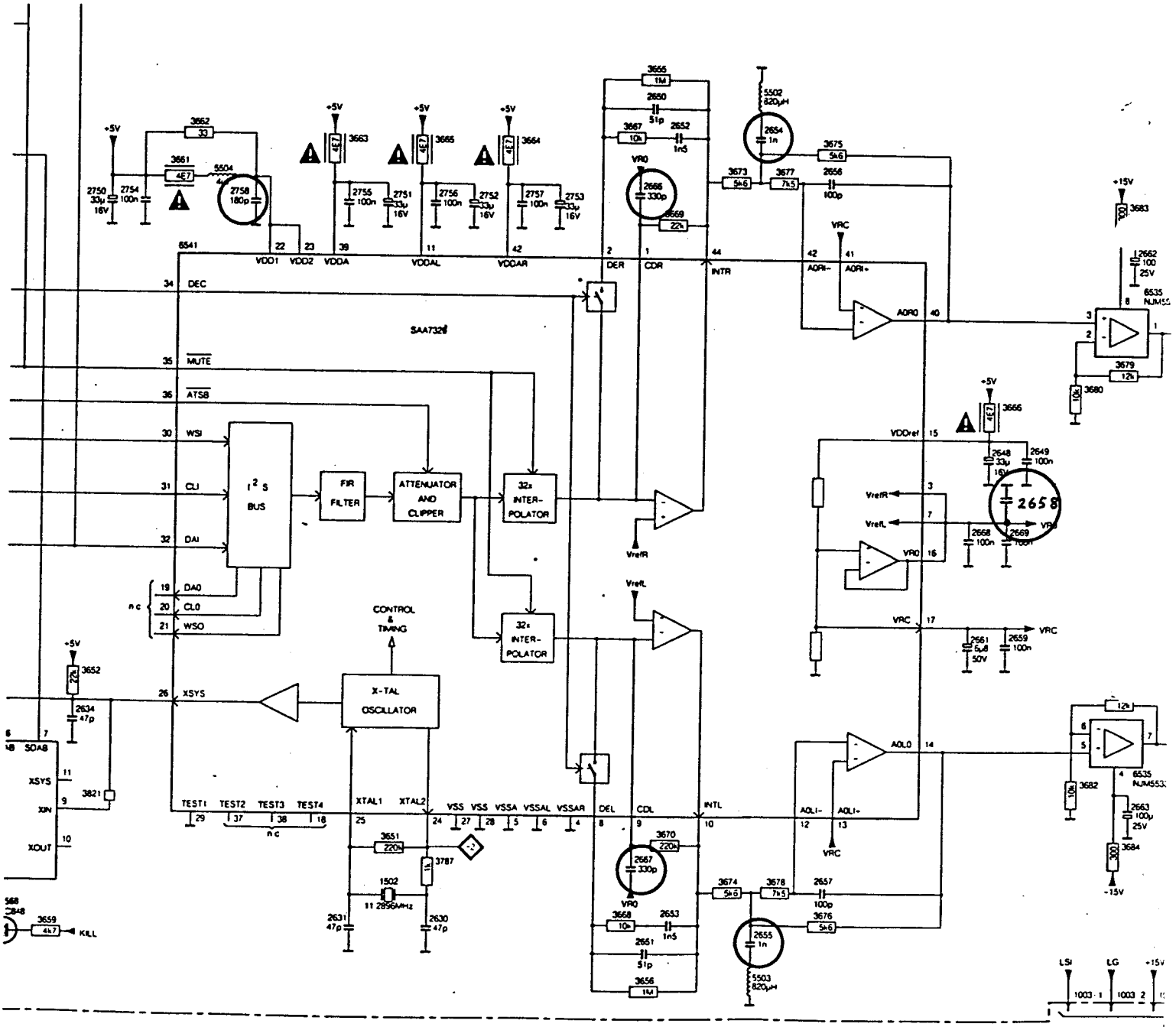
*) Zwischenlösung: C 2758 = 180 pF; C 2658 nicht vorhanden.

4812 829 52066

Form 80048

Nachdruck nicht gestattet! Änderungen vorbehalten.

CD 608/618


SAA7328
I²S BUS
FIR FILTER
ATTENUATOR AND CLIPPER
32x INTER-POLATOR
32x INTER-POLATOR
CONTROL & TIMING
X-TAL OSCILLATOR
SDAB
XSYS
XIN
XOUT
KILL
MUTE
ATSB
WSI
CLI
DAI
DAO
CLO
WSO
DEC
VDO1
VDO2
VDOA
VDOAL
VDOAR
DER
CDR
INTR
AORI-
AORI+
AOR0
VDOref
VRC
VRO
VrefR
VrefL
AOLI-
AOLI+
AOL0
DEL
CDL
INTL
TEST1
TEST2
TEST3
TEST4
XTAL1
XTAL2
VSS
VSSA
VSSAL
VSSAR
+5V
+15V
-15V
LSI
LG
1502
11.2896MHz